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# of the <br> GOVERNOR'S INTERIM <br> HIGHWAY COMMITTEE 1950 

## GOVERNOR'S INTERIM HIGHWAY COMMITTEE

December 4, 1950

Honorable John W. Bonner Governor of Montana
Helena, Montana
Dear Governor:
The Governoris Interim Highway Committee has concluded its study of Montana's highway problem. All information available has been thoroughly digested and final conclusions have been reached.

It is this Committee's honor to submit to you herewith its report entitled "A Montana. Highway Program, Report and Proposal of the Governor's Interim Highway Committee, 1950."
"We pay for good roads whether we have them or not, and we pay more for them if we don't have them, than if we do."
T. H. Mac Donald

Commissioner of Public Roads


| Chairman | Membership |
| :---: | :---: |
| George Schotte, Butte | C. Hi. Wall, Helena |

District No. 1
Brad Seeley Whitefish
James Gary
O. L. Gillespie

Frank S. Sabin
Guy Sperry
E. B. Winter

District No. 2
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Fred E. Barrett
Monte A. Burgess
Edward A. Daubenspeck
Leo Kraft
Edward A. Marion
District No. 3
Fred Robinson
Dr. P. M. Feda
M. A. Lalotte
J. W. McKee
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Buck Ryder
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Bert Lalonde
W. P. Marcus
J. J. Ming

District No. 5
Earl McGinnis
Al Hawkinson
Pete Teigen
District No. 6
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J. H. Ernest

Al Hensley
Dr. Harry licGregor
E. F. Wyse

District No. 7
C. M. Wall

George M. Hall
W. H. McIntyre

Claude A. Mitchell

Circle
Terry
Glendive
Sidney
Wibaux
Bloomfield
Kalispell
Libby
Eureka
Ronan
Polson

Cutbank
Chester
Chinook
Shelby
Havre
Browning

Malta
Wolf Point
Scobey
Plentywood
Glasgow
Froid

Lewistown
Jordan
Teigen

Great Falls
Stanford
Choteau
Great Falls
Conrad

Helena
Whitehall
Townsend
Boulder

Maj. Evan W. Kelley
Thomas B. Castles
Clyde J. Neua
Amos Riley
W. E. Sears

Pete M. Staton
Lee Williams
District No. 9
Dan McKittrick
Robert E. Gohn
George Melton
J. Hal Pasley

George Schotte
District No. 10
L. V. Swanson

George Bing
Bert Griffin
R. S. McQuitty
C. E. Smart

District No. 11
George Daniels
John N. Carlson
Mearl L. Fagg
John R. Graham
Jesse L. Kiefer
Oliver Wold
Harold Zent
District No. 12
Paul F. Jelinek
E. L. Dorsett

Orval Gentry
Odin Myhre
Glen Woolhiser

Representatives of Agriculture
Stanley Antrim
A. C. Bayers

Claude R. Hookham
J. E. O'Connell

Dan Mizner

Missoula
Superior
Philipsburg
Plains
St. Regis
Hamilton
Deer Lodge

Anaconda
Virginia City
Dillon
Ennis
Butte

Livingston
White Sulphur Springs
Bozeman
Harlowton
Big Timber

Hardin
Roundup
Billings
Red Lodge
Park City
Laurel
Hysham

Miles City
Colstrip
Broadus
Baker
Ekalaka

Montana Woolgrowers Assn. Stevensville
Montana Stockgrowers Assn. Twin Bridges Farmers Union
Farm Bureau
State Grange

Emigrant Helena Deer Lodge

Representative of Labor
James Umber
Missoula
Representative of Mining
Carl Trauerman
Butte
Representatives of Highway Transportation
Harry O. Bell Montara Automobile Assn. Missoula
John Rice Montana Motor Transport Assn. Great Falls
Members at Large

Hugo J. Aronson
D. M. Manning

Ralph Bricker

Cutbank
Hysham
Great Falls

Members at Large Continued Richard Nixon Hogeland
Frank E. Dougherty Elliston
Mrs. Cassie B. Goresgahl Wilsall

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## General Background Section

The Highway Interim Committee appointed by Governor Ford during 1948 made certain recommendations which eventually reached the Legislative Assembly of 1949. Those recommendations were accepted and acted upon in part only. The recomendations having to do with reorganizing the Highway Department were among those upon which action was not taken. The recomendations pertaining to providing additional revenues for highway purposes were accepted as to some itens, and as to others they were either modified or rejected. is to the latter, the sources of revenue provided by the new Legislature were largely temporary in nature. They left the problem of providing funds following the end of the fiscal year 1951 as one to be struggled with by the incoming administration.

## Second Interim Committee

The Legislature also failed to act upon the recommendation for the creation of an Interim Comaittee by law, to continue the study of the highway situation and sll of its aspects. Following the adjournment of the Legislature of the 1949 session, of course Governor Bonner recognized the difficulties with which the State was confronted. Accordingly, early in the summer of 1949, the Governor asked representative bodies in each county of the respective highway construction districts to recommend names of men to serve on a Committee, the purposes of which are outlined in the following letter:

## September 13, 1949

"I have taken the liberty of appointing you to be a member of the Interim Cormittee to Study Highway Froblems.

Ha you know, we face a serious problem concerning the financing of our highways in this state and the purpose of the committee is to neet with the view of studying the highway systern of this state and present to the legislature a plan of adequate financing of our highway system.
"No appropriation for this committee has been made by the legislature, and it is strictly a committee of public-spirited citizens interested in highways who are willing to meet with the view of doing everything possible to aid our highway program。
" Bersonally, I believe this is one of the most important comrittees that we have, and I would sincerely appreciate it if you would attend its meetings and in the event you are unable to do so, see to it that an alternate is sent in your place because at the meetings it is desired that all the financial districts of this state be represented.
"I have called a meeting of the committee to be held in the House Chambers, Capitol Building, Thursday afternoon at 2:00 P. M., Sept. 29, and I earnestly ask that you be present because this will be one of the most important meetings that will be held by the committee.
"I know, with your help and with the help of the other members of the Committee, that we can contribute substantially to highways in Lontana."

This letter was sent by Governor Bonner to the men chosen to comprise the ＂Interim Committee to Study Highway Iroblems。＂

The Committee convened for its first meeting in the fiouse Chambers，japitol Suilding，Helena，at 2：00 P。M．，September 29．To those assemblea，Governor Bonner again outlined the duties and responsibilities of the Comvilutee by quoting from the second paragraph of his letter of September 13，aiid added tiat ＂this is necessarily a very long－range progran which will require study of finances and general study of the whole highway subject．＂

With this charge fron Governor Bonner always in mind，an Executive Jommittee numbering 29 men established by the Committee as a whole at the Se ternber 13 meeting，with George Schotte of Butte as Chairman and C．M．Wall of Helena as Secretary，began work．Final recomendations of the Executive Comittee were submitted to the Cormittee of the whole July 28， 1950 in the Governor＇s Recep－ tion Chambers in the State Capitol Building．The recommendations were unanimously accepted by the Bommittee of the whole．

From the beginning to the end of its activities，the Executive Comittee re－ ceived generous cooperation from the Highway Department．The Comaittee labored as a truly independent body，entirely free to explore in its own chosen fields，saying what it believed to be pertinent to any situation ur．der consideration，and to make such recommendations as in its judgrnent would be in keeping with the purposes for which the Committee was established．

As indicated in Governor Bonner＇s letter of September 13， 1949 the Jommittee proceeded entirely without benefit of any appropriated funds．Its members contributed their time．liany not only paid their．own traveling expenses while going to，attending，and returning from sessions，but also ret the cost of postage，telephone，and other miscellaneous items fron persongl funds．In instances of certain individuals，local public bodies made contributions to the expense funds of their respective representatives．The Chairmsn，George Schotte，traveled to the States of Vashington，Oregon，and California at his own expense to investigate policies and practices in those cormonvealths in respect to highway administration and rinancing．Secretary C．M．Mall
visited Olympia，ashington on a similar mission．
Cther Western States have appropriated large amounts to cover the cost of Interim Conmittee studies of their respective highway problems．fifis was done in recognition of the size，complexity，and importance of the problems． Iatently，without benefit of funds to finance a research staff and to employ secretarial assistants，the liontana Interim Committee was forced to confine its operations to those features of the State＇s highway problems which were most urgently in need of attention，and with which the Comnittee could treat most constructively。

In view of the financial limitations surrounding the Committee＇s ：ctivities， it did not include in its agenda any comprehensive study of county roads， urban street problems，and rail crossings。 Unfortunately，too，it could not include in its agenda thorough study of the highvay accident factcr，nor inter－ state relationships，except as regards licensing of vehicles and tax on motor fuels and other forms of highway users＇tax．Neither did it have the re－ sources available for a detailed study of economy of the functioniag of the State Hirhway Departments．However，it is pertinent that the over－all ex－ penditures for engineering，planning operations，and general supervision of the Department，in relation to total expenditures，are well within the limits commonly recognized as marranted in organizations of comarable or identical nature．

Now to proceed with other background information. Since the passage of the first Federal Aid Bill in 1916, the State highway activities in Montana have been intimately connected with the Federal aid program. Beginning about 1921 or 1922, the rate of progress of highway development in the State has been paced by the allocation of funds to Montana from the Federal aid appropriations, which the State has matched but often times with delay and difficulty. Since passage of the first Federal Aid Act, two organizations cooperatively functioning have had and still have to do with the planning for and the operation of highway activities of the State - one, the Highway Commission; two, the Bureau of Public Roads.

The following representation indicates the major responsibilities of these two bodies:

## Creation and Revision of State Highway Commission


#### Abstract

Highway Commission: The first State Highway Commission, largely advisory in nature and composed of three members, was established by the 13th. Legislative Assembly in 1913. The l5th Legislative Assembly in 1915 abandoned the 3 -man commission and established one composed of one member from each one of a 12 county group. This commission had broader authority. By action of the extraordinary session of the l7th Legislative Assembly, the Highway Commission law was again amended. During the Legislative Session of 1921 another reorganization of the State Highway Commission occurred. This time a 3-man group was set up. Then, after a period of six years, the 27 th Legislative Assembly reorganized the Commission on the present 5 -man basis - one from each of five commissioner districts, each district comprised of certain specified counties. See Map \#l。


Each Cormissioner is appointed by the Governor to hold office for a term of four years. His compensation is at the rate of $\$ 10.00$ per day for each day actually engaged in the duties of office, including travel time between his home and place of employment. He is also paid traveling expenses while away from home in the performance of his duty.

## Powers \& Duties of Highway Commission

The law specifies that the Commission shall choose one of its members as chairman and that it shall have the power* to appoint an engineer to be known as the State Highway Engineer, and other employees of the Commission, and shall fix the salaries of such engineer and other employees.

The State Highway Commission shall meet at least once each month for the purpose of transacting business. Other duties of the Commission as provided by the 1945 Act and other amendments, briefly, are:

[^0]1．Maintain and preserve records in its office at the Capitol．
2．Keep said office open at such times as the Commission may require．
3．Keep on file a record of all proseedings，orders，plans，specifications， contracts，estimates，and official acts．
4．Submit to the Governor on or before the 15 th day of each month a report of work constructed，under way，proposed construction，and progress made during the preceding month，and shall make recommendation as to needed improvements and their estimated cost．
5．Collect and compile statistics relative to the public highvays of the state，and shall collect all other information relative thereto deemed expedient．
6．Investigate and determine upon various methods of road construction and as to the best method of construction and maintenance of roads，road markers，and other items that it may deem appropriate and necassary．
7．May be consulted at all reasonable times by the County Commissioners in regard to highway matters and shall give advice to such officers upon re－ quest and shall lend their aid in promoting highway improvements throughout the state．
8．Shall have the power and it shall be the duty to formulate all rules and regulations necessary for the government of the State Highway Commission．
9．Is authorized to nake all rules necessary to comply with the Federal Road aid Act and to obtain for the State of Montana the full benefit of that Act．
10．Is authorized to and shall，in conjunction with the Board of County Commissioners of the several counties of the State，designate such public roads in the State as shall be classed as public highways and subject to improvement under the provisions of the Federal Road Act；and the Commission， in conjunction with the Board of County Commissioners，shall also formulate necessary rules and regulations for the construction，repair，maintenance， and marking of highways and bridges，and may provide for local supervision in such cases．
11．Determine fron what funds claims shall be paid．
12．Irovide for a system of accounting for each project．
13．Distribute each fiscal year funds available for construction and recon－ struction to the 12 construction districts。（Commonly called＂financial districts＂。）

Here is a copy of the act governing such distribution．（See Inclosure \＃1．）
14．Let contracts for work on state highways．
15．Authorized to do all things necessary to carry out fully the cooperation conterplated upon the part of the State by the Federal Road Act．
16．Authorized and empowered to acquire highway right－of－may by purchase or otherwise，including powers of condemnation．
17．Authorized to improve design of all so－called forest highway signs and to cause such signs to be erected．
18．Directed to cause to be published an official road map of the State．
Bureau of Public Roads：The Bureau first came into being in 1905 as the Office of Irublic Roads，Department of Agriculture．It came to be known in the res－ pective States about 1915 as a Bureau of Public Roads and Rural Fingineering． About that tirne field offices were established in the West．Its name was chang－ ed to the Bureau of Public Roads during 1918．From its inception until 1930， the organization was a bureau of the Department of Ligriculture。 Tlat year it was transferred from the Department of Agriculture to the Federal Fiork Agency under the title of Public Roads administration． 1949 saw it again moved．Then it was shifted to the General Service Administration where it resained its old title The Bureau of lublic Roads．However，within a few weeks it was transferred


## Inclosure \#1

## Chapter 87 (Session Laws of Montana 1945)

An Act to Amend Sec. 2396.3 of the Revised Codes of Montana, 1935, As Anended by Chapter 102 of the Session Laws of Montana, 1937, As Amended by Chapter 213 of the Session Laws of liontana, 1939, As Amended by Chapter 175 of the Session Laws of Montana, 1943, Relating to the Nethod for the Determination and Distribution of the State Highway Fund for Construction purposes.

Be it enacted by the Legislative Assembly of the State of Montana:
Section 1. That Sec. 2396.3 of the Revised Codes of Montana, 1935, as amended by Chapter 102 of the Session Laws of Montana 1937, as amended by Chapter 213 of the Session Laws of Montana, 1939, as amended by Chapter 175 of the Session Laws of Montana 1943, be, and the same is hereby amended to read as follows:
"Sec. 2396.3. At the start of the fiscal year beginning July 1, 1937, and ending June 30, 1938, the state highway comnission shall compute fron its records the percentage of incompleted mileage, within each of said districts which each district respectively bears to the total incompleted mileage of said federal highway system within this state at that time, and for that fiscal year the state highway commission shall use the percentages so computed in allotting to each of said districts construction moneys from the state highway fund as defined and provided by section 2396.2. at the beginning of each fiscal year thereafter the same procedure shall be carried out, and the actual respective percentages of incompleted mileage in each district as so computed and determined the beginning of each fiscal year shall be used in allotting said moneys to said districts for that fiscal year. As a basis for the determination of the amount of incompleted mileage of said federal highway system in this state for each fiscal year, the state highway commission shall adopt as the criterion the current definition, as prescribed by the public roads administration, for a fully and adequately completed federal highway in this state. This criterion shall be considered as a $100 \%$ completed federal highway; and federal highway mileage vihich is only partially completed on a percentage basis, this to be determined from the relative estimated percentage costs of construction which must be performed to bring said mileage up to the standard of said criterion.

The state highmay cormission may vary the expenditures made in any district under the provisions of this act to the extent of $15 \%$ above the amount of money allocated to such district in any year, provided that the allocation of construction money to such district for the next succeeding fiscal year shall be decreased by an amount equal to such increased expenditure, and the amount so deducted shall be allocated to the other districts on the basis of the percentages established in the year that the increased expenditures are made."
again, this time without the disturbance of title, to the Department of Commerce, where it rests today. Despite these shifts from Department to Department, by virtue of its inherent strength developed over the years by top quality leadership, high grade personnel generally, the integrity of the Bureau's functioning continued on a high plane. Since its creation, the Bureau has been the administrative agency of the Federal Government in highway matters.

It has worked vary closely with State Highway Departments since the field offices were established.

The initiative in all highway matters resides in the State Highway Department. There the programs start and are developed. The Bureau, by virtue of its authority to approve or disprove State highway action in the development and maintenance of the Federal Aid System, is in position to require certain standards of highway location and design. The bureau holds this authority in order to secure a goodly measure of uniformity between States in the developnent of the Federal Aid System.

The Bureau may, and well within its responsibilities, differ with the Highway Department on proposals partaking of wide departures from commonly accepted engineering practices on highway matters. It may refuse to approve such departures on an all-out basis; however, it is the policy of the Bureau to test the merits of such departures on an experimental basis.

A Montana representative of the Bureau who reports to his regional Bureau superiors works with the Highway Department personnel of the Planning Survey Section. This activity is cooperatively financed under the terms of the Federal Aid Bill. However, the activity is a feature of the Highway Department's administration。

A Bureau representative sits in with the Commission in the opening of bids and is a party to the contract lettings and the approval of contracts. Bureau inspectors make monthly checks of all contract work under way on the Federal hid System to determine whether the work of the contractors meets the specifications established for the job. Any deficiencies found are reported to the Highway Department for correction. Incidentally, the Bureau does not prepare specifications for construction and reconstruction work on the Federal Aid System. Those specifications are prepared by the State Highway Department within the general framework of specifiaations which the Association of State Highway Tngineers have prepared for roads of different service classifications. Of course the Bureau representatives have the power to approve or disprove specifications and to suggest revisions.

A Bureau engineer makes current inspections of the Federal Aid System to determine satisfactory maintenance and the degree to which various sections of the Federal Aid Systen fall below the established over-all specifications. For instance, this inspector determines the degree to which, on a given section the subgrade or base is deficient to properly support a given volume of traffic; the degree to which the width of a particular section is deficient; the degree to which sight distances on a particular section are deficient; the degree in which the gradient of a particular section is excessive; the degree to which curvature on a section is excessive, the degree to which surface is deficient on a section. The $f$ indings of this inspector are reported to the State Highway Department. These findings supply the Flanning Survey Section of the Department with the information from which it prepares its schedule of uncompleted mileage
within the respective construction districts and for the State ass a whole, and from which the Highway Department select the projects to comprise its annual construction and reconstruction program。

## Federal Aid Road nicts

July 11, 1916 the Fresident signed the first Federal aid Road ict. It and the succeeding acts of the intervening years have appropriated varying sums of money for distribution to the states to aid in building, but not maintaining highways.

## $7 \%$ System

An important amendment to preceding Federal aid Road Acts was included in Section 6 of the act of 1921. That provision forms the basis for the pre-sent-day Federal Aid system of highways. It said in effect that before any projects are approved in any state such state through its State Highway Department shall designate a system of highways not to exceed 7 percent of the total mileage of such state as shown by the records of the 3tate IIighway Department at the time of the passage of the act. Upon this si, stem all Federal Aid apportionment shall be expended.

The law also provided that the designation of the respective states was subject to the approval of the administrator of the Federal Aid ict, at that time the Secretary of agriculture。

In actual practice the officials of the State Highway Departments and the Bureau of Fublic Roads representatives in the respective states cooperatively worked out the 7 percent system for the Secretary's approval. and in a like manner revisions of the system have been made from time to time.

Cut of this requirement of the law grew what is commonly known as the "Seven Fercent System," sometimes called the Frimary System.

Since 1921 numerous changes and additions have been written into the various Federal Aid Bills and other Federal monies from time to $t$ ine have supplemented the regular Federal Aid appropriations.

## Federal iid Secondary Road System

The 1934 Federal aid Act, as amended by the so-called Hayden-Cartwright ict, extended Federal ind to and included the Secondary or feeder road system. The law provides that roads to be included in the Secondary System be selected cooperatively by the State Highway Commission, local road offictals (in liontana the County Comissioners) and the Bureau of Public Roads. The basis for desiqnating routes for including in the systen is defined in the law in general terms. These terms indicate that first consideration be given lo conservation and devolopment of natural resources, economic and social values with emphasis on land utilization, and that second consideration be given to the numerical traffic volume. The County Cornmissions select the projects frofinancing during any given fiscal year.

## Federal isid, Urban System

The act of 1933 provided that with the approval of the Bureau of Public Roads, Federal aid allocations to states could be used for building of those parts of the Federal .id irimary 3ystem that ware comprised of city streets. The act of 1944, in effect created a third Federal aid system - the Federal aid Urban highway ystem.

Under this act the State Hichway lepartnert may designate, with the approval of the Bureau of Fublic Roads, the boundaries of urbarl areas of 5,000 or more
population and then develop plans for the improvement of roads and streets in those areas which are specifically and materially related to general high－ way traffic。

Federal Aid Grade Crossing
Federal did funds for grade crossing elimination first were made available by an act of 1935．Subsequent acts have carried forward that item．

## lanner of spportionment

All Federal fid funds are distributed among the states on the basis of formulae：
Frimary Highway formula gives equal weight to the relative land area of a state；the relative miles of mural rocd of a state（1922 figues）；the relative population in a state－Montana＇s portion of annual appropriation under this formula since the 1940 census is $2.078665 \%$ 。

Secondary Highway formula for apportioning secondary funds is the same except that the population factor is based solely upon rural dwellers．Nontana＇s share of the secondary appropriations is $2.130119 \%$ 。 Federal Aid Urban Funds are distributed solely on the basis of urban dwellers in municipalities of 5,000 or more．Montana＇s share of the total under this formula is $0.252446 \%$ or about $\frac{\overline{7}}{4}$ of one percent．

Grade Crossing Elimination funds，are a maximum of $10 \%$ of the total Federal aid apportioned to the respective state。

How the Federal Government Shares in Construction and Reconstruction Costs of the Federal Aid System

In lifontana the Federal funds allocated to the state pay 57 percent of the cost of all Primary，Secondary and Urban construction and reconstruction， while the state pays 43 percent．In common terms the state，in order to receive the benefit of Federal Aid，must match Federal funds on a 43－57 basis．

Grade Crossing，Funds require no matching as far as the state is concerned。 This item is 100 percent contributed by the Federal Government．

## Inter－State System

During the war there came into the Federal Aid Highway classification of most states，Montana included，certain routes designated as the Strategic Network。 Since then，with certain revisions as to mileage，the above de－ signation has been succeeded by the term Inter－State Highways．In Montana， U．S．Routes Nos． 10,87 ，and 91 comprise this classification。 This classi－ fication calls for a higher standard of construction specifications than other routes of the Irimary system。

Montana now has these classifications of Federal Aid Highways：

$$
\frac{\text { Miles }}{1.250)}
$$

Inter－state

$$
4,509) \quad 5,759
$$

Secondary
6，822＊）6，822
Urban

The Primary and Secondary mileage in each financial district by counties is shown in Table \＃1。
＊Of this total proposed， $3,027,216$ miles have been approved to date．

MONTANA FRIMARY AHD SECONDARY IIIGFWAY MILEAGE BY COUNTY AND FITANCIAL DISTRICT AS OF DECEMHER 31, 1949

FINANCIAL DISTRICT NO. I
Flathead
Lake
Lincoln
Total
FINANCIAL DISTRICT NO. 2

| Blaine | 55.338 |
| :--- | ---: |
| Glacier | 166.712 |
| Hill | 81.336 |
| Liberty | 25.585 |
| Toole | $\underline{88.909}$ |
| Total | 417.880 |

47.938
119.704
150.286
78.302
$\frac{101.629}{497.859}$
Total
FINANCIAL DISTRICT NO. 4
Dawson
McCone
Prairie
Richland
Wibaux
Total
FINANCIAL DISTRICT NO. 5
Fergus
Garfield
Petroleum
Total
FIJINCIAL DISTRICT NO. 6

| Cascade | 217.626 |
| :--- | ---: |
| Chouteau | 72.051 |
| Judith Basin | 61.519 |
| Pondera | 53.042 |
| Teton | 92.226 |
| Total | 496.464 |

187.678
135.957
$\frac{40.124}{363.759}$
111. 434
23.900
$\frac{23.049}{158.383}$
$\begin{array}{r}112.738 \\ 80.474 \\ 37.157 \\ 73.067 \\ 85.801 \\ \hline 389.237\end{array}$
330.364
152.525
98.676
126.109
$\frac{178.027}{885.701}$

FINAIVCLAL DISTRICT NO. 7

| Broadwater | 81.832 |  |  |
| :--- | ---: | :---: | :---: |
| Jefferson | 108.008 |  |  |
| Lewis and Clark | 191.995 |  |  |
| Total |  |  | $\mathbf{3 8 1 . 8 3 5}$ |

FINANCIAL DISTRICT NO. 8

## Granite <br> Mineral

Missoula
Powell
Ravalli
Sanders
Total
FINANCIAL DISTRICT NO. 9

## Beaverhead <br> Deer Lodge

158.142

Madison
Silver Bow
Total
FIJANCIAL DISTRICT NO. 10
Gallatin
Meagher
Park
Sweet Grass
Wheatland

## Total

FINANCIAL DISTRICT NO. 11

| Big Horn | 142.775 |
| :--- | ---: |
| Carbon | 92.650 |
| Golden Valley | 29.125 |
| Musselshell | 102.503 |
| Stillwater | 38.615 |
| Treasure | 28.807 |
| Yellowstone | $\underline{140.182}$ |
| Total | 574.657 |

FINAINCIAL DISTRICT NO. 12
Carter
Custer
Fallon
Povider River
Rosebud
state total
The big step forward in the improvement of Montana's Primary system started in the early thirties when the first oil was applied. Within a surprisingly few years the travelers over much of the mileage comprising the Primary system were out of the mud.

With that great advance in road surface conditions came an increased and overgrowing volume and weight of traffic。 During the past ten to fifteen years this expanding traffic load has always been ahead of the financial ability of the state to keep highway load bearing and wearing characteristics abreast of requirements.

The following tables 2, 3, and 4 give information pertinent to that fact:

## DISTRIBUTION BY SURFACE TYPE

As of December 31, 1949
TABLE 2

## nary

 ondary| Farth | Gravel |  | Oiled |  | Paved |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mileage \% | Mileage | $\%$ | Mileage | \% | Mileage | \% | Mileage | \% |
| $396 \quad 6.89$ | 377.783 | 6.56 | 1917.155 | 85.37 | 68.137 | 1.18 | 5759.881 | 100.00 |
| 54217.92 | 2059.654 | 68.04 | 418.323 | 13.82 | 6.621 | 0.22 | 3027.216 | 100.00 |

DEFIC IEICY RATING OF FRINARY SYSTEM
TABLE 3

Deficiency Category
50\% to 100\% Deficient
$40 \%$ to $50 \%$
$30 \%$ to $40 \%$
$20 \%$ to $30 \%$
$10 \%$ to $20 \%$
$0 \%$ to $10 \%$
TOTAL
$\frac{1 i l e a g e}{1,523}$
1,523
1,263
1,317
866
350
430
5.759

Percentage
26.62
21.93
22.86
15.03
6.08
7.48
$100.00 \%$

## AGE OF FRIMARY SYSTEM

TABLE 4

| Mileage | Percentage |
| ---: | ---: |
| 1369.584 | 23.78 |
| 784.954 | 13.63 |
| 1741.842 | 30.24 |
| 1581.356 | 27.45 |
| 98.381 | 1.71 |
| 183.764 | 3.19 |
| 5759.881 | 100.00 |

It is to be noted that despite all expenditures during past years, some 48 percent of the milegge of the Primary system ranges from 40 to $50 \%$ deficient in comparison with needed standards. It is to be further noted that construction standards on which work has been done during the five-jear period 1945 to 1949, taking the figures of Tables 3 and 4 at their face value, are failing measurably to meet those standards. During those ye ars, according to line one of Table $4,1369.58$ miles or $23.75 \%$ of the total mileage of the Primary system, was improved. Yet the last two lines of Table 3 tell that only 780 miles of that system fall within a classification of $20 \%$ or less deficient.

These figures merely are another expression of the fact that highway break－ down and obsolescence is far outdistancing the rate of correction．Too much mileage in relation to the dollars available．

## Forest Highways

The Forest Highway system of the state，totaling 2,329 miles，is another classification of material importance in the State Highway picture．

Roads of this system are those of prinary importance to the state，counties， or communities within，adjoining or adjacent to the national forests．

Money appropriated by Congress for construction expenditure on the Forest Highway syster is $100 \%$ dollars to the states．No matching required．Rights－ of－way must be acquired by the state．Funds are allocated to the states on the basis of area and value of land owned by the Government within the National forests．

The designation of the Forest Highway systen is a joint work of the State Highway Department，the Bureau of Public Roads and the Forest Service；the Secretary of Agriculture is the approving authority。

The Forest Hichwa；system overlays in part the Inter－State Federal Aid System， the Primary and Second ary Federal Aid System and other rural roads；accord－ ingly，they carry three classifications in Montana：

Class 1．All Forest Highways on the Federal Aid
Prinary System（ 635.8 miles）。
Class 2．All Federal Highways on approved Secondary State Highways systems（ 296.6 miles）。 Class 3．All Forest Highways not a part of the Primary or Secondary highway systems（257．1 miles）。

The selection of projects for financing during any given fiscal year is the joint responsibility of the State Highway Department，the Bureau of Fublic Roads and the Forest Service，subject to the approval of the Secretaries of Agriculture and Commerce．The State Highway Department must approve all plans and cost estimates before construction work can begin．

The Bureau of Public Roads is usually the contracting agency and supervisor of construction of all Forest Highway projects；however，the State Highway Department，subject to the approval of the Bureau of Public Roads，may make and has made the location surveys and prepared the project plan for Forest Highway Projects。

To date $\$ 14,860,118$ has been expended on the Forest Highway systen from appropriations made by the Congress，about $88 \frac{1}{2} \%$ on projects overlaying the Primary system，and about lla $\frac{10}{2} \%$ on projects overlaying the Secondary system．

To the extent Forest Highway $f$ unds are expended for improving sections of Forest Highways overlaying the Primary and Secondary systems，just to that degree is the improvement of the Federal Aid system accelerated．This is an important item in those construction or financial districts in which the National forests are located，despite the fact that appropriations made by the Congress are pitifully small，as compared with estimated costs to complete the system and in comparison with the rate at which increased traffic out－ modes forest highways constructed 10 to 20 years ago．gainst total expendi－ tures to date of $\$ 14,860,118$ ，the estimated cost to complete the syster is $\$ 44,449,400$ 。

Cther Federal Funds
Appropriations from time to time by the Congress for improvernent of roads leading to the National Parks，crossing Indian Reservations and the Fublic Domain，have contributed to some extent in aiding the state to move nearer its goal in highway progress．

## Operations of the Planning Survey Section

of the State Highway De partment
This section of the Highway Department as before stated is financed jointly from State and Federal funds．A representative of the Bureau of Public Roads works with the Highway Department personnel of this section．He checks their findings and passes on certain classes of items for the approval of the Bureau。 The personnel of this section strive to produce objective results，scienti－ fically worked out；however it is apparent that the findings of the section are too often modified and otherwise interfered with by powers officially superior to the technicians of the Department。

The Committee was particularly interested in the system used by the Section．
（1）To determine the value of a proposed road，for addition to or revision of the Federal Aid System．
（2）To determine the uncomplete mileage vithin the several construction districts。
（3）To detemine the priority of financing that should be given sections of the Highway system。

Frocedures used in determining the economic merits of proposed additions to， or revisions of，the Federal Aid Systern：

An economic analysis is made of each project whenever it is proposed that a new route be added to the Federal Aid System or a major revision of the existing systems is under way．These analyse＇s consist of assembling all evidences pertaining to the estimated volume of traffic that would use a new route；the amount of revenue that would issue from that estimated traffic in form of gasoline and other taxes；the amount of savings that would accrue to the motoring public because of shorter traveled distances，improved road－ way surface，higher standard of alignment，time saving，etco；the annual amortized cost of constructing and current cost of maintaining the new route．

With all the economic factors concerning the proposed new route determined， tabulated，and appraised，they are consolidated into three major categories；
（1）Amount of revenve
（2）Amount of saving to motoring public。
（3）The annual amortized cost of constructing and current cost of maintaining the highwayo

By comparing the revenue，savings and cost factors，the determination of the degree of financial solvency applying to the new route is established．From tho standpoint of the motorist，the estimated revenue is compared with the estimated value of savings that the motorist mould receive．In the event the revenue exceeds the savings that route would not be justified from the motorists＇standpoint because they would be paying more than the value they would receive．On the other hand if the comparison of the motorists＂savings with the total cost of the route shows that the costs exceed the savings，the new construction would not be a sound investment．By statistical process which is called the＂Economic Composite Solvency Formula，＂all the factors bearinfs upon the question of justification of the proposed route are worked into a cornination，the results of which indicate the over－all econornic worth of the new hichway．

But this is not all of the story. Other factors, which cannot be resolved in mathematical values, are recognized as bearing upon the justification of any proposed route. Access of the peoyle along the route to medical service, recreational facilities, markets and shipping points, are all elements of value to permanent residents along the route and those who may be temporarily within the territory tapped by a proposed road. Such social factors as those enumerated are taken into consideration by the planners and have an influence in the determination as to whether a proposed route or a profosed revision of tho system in any respect is justifiable. Since such factors are not definitely measurable the y are susceptible to manipulation to build up justification for a project of low economic value. They open the gate to political influence in a system that ought by all means to be purely objective in its purpose.
The planners report that economic analyses usually reveal justification for proposed new highway construction fror the standpoint of saving to the motorist, since the amount of the estinated saving is more than the amortized construction cost and the estimated annual maintenance cost. However, the difficulty in Iontana is that curr nt revenue always has been insufficient to provide enough funds to pay for all the new construction that, under the economic theory described above, is justified. This disparity between economic justification for given roads and the State's construction or reconstruction ability accounts for much of the Stater highway financial problem. The state Highway system is overburden with mileage.

Distribution of fundsbetween the construction districts as required by law: See Map \#2.

Financial Districts
Evidently the Legislative Body of 1927 was dissatisfied with the manner in which selection was made by the Highway Department for financing construction and reconstruction from funds that had been available in any previous fiscal year. it any rate, at that time the Legislature enacted the law, heretofore quoted, which established what are comonly termed the "financial districts," but which are designated in the orisinal law as "construction districts," the pattern of which is shown on Map \#l. The original sict during intervening years has undergone certain amendments.

Each construction district receives a share of the funds available for construction and reconstruction during a fiscal year based upon the relationship between the uncompleted miles of Federal Hid road within each district and the total uncompleted nileage within the State as a whole at the beginning of the fiscal year within which funds are to be used.

The uncompleted mileage is based upon information supplied the State Highway Department by the Bureau of Public Roads. in inspector of that Bureau spends practically all of his time appraising conditions on the various primary and secondary routes and in rating conditions of each route against established standards.

The Planning Survey Section of the State Highway Department, by use of a sound method, although somewhat too complicated for easy presentation and understanding except by those fariliar with statistical procedures, works out the firgurs indicating the total uncompleted mileage in each district. The sum of tin figures for the individual districts, of course, gives the total uncompleted mileage within the State as a whole. In this formula a bridge is treated as a half-mile of road.

Members of the Committee have investicated the validity of the system and its fairness as between districts. They also have done what they could. within the limitations of time and talent available for such scrutiny, to determine the integrity of the system"s application. The Conmittee is satisfied from these investigations that the system and its application meet the requirements of the law which established the construction district basis of distributing construction and reconstruction funds.

The investigations of the Committee members, however, lead to the belief that to base the distribution of funds between the different districts on the relationship between estimated cost to complete the Federal Aid System in each district and in the State as a whole, would be somewhat more equitable. Placing the distribution on the basis of relative cost to complete the system, would give recognition to probable cost differentials between certain districts, or groups of districts; whereas, the system required by the present law, in effect assumes that each mile of road would cost the sane everywhere.

Advantages \& Disadvantages of District Law
Many students of the highway probler in Montana believe that the requirements of the so-called IIighway Construction District Law are more of a hindrance than a benefit for the reasons that; first, it causes the splitting up into relatively small parts the modest sum available for construction and reconstruction during any fiscal year, thus reducing the effectiveness of all the dollars included in the budget; it interferes seriously with the creditable objective of expending available funds on projects of highest priority, State wide service considered. Notwithstanding the rather broadside objections to this system, it has a lot of appeal to many. It has certain advantages, the chief of vhich is that of giving a neasure of protection to smaller, less powerful sections of the State from being the possible victims of the influence of larger and more potent communities.

Fast Fund Distribution Equitable Under Law
The belief is not at all uncomon throughout the state that unfairness has more or less characterized the distribution of funds between the 12 construction districts. As heretofore recorded, the Committee finds no evidence to support this belief. On the other hand, such evidence as has been surveyed shows quite conclusively, as above written, that the law's requirements have been well met. The following table supplies pertinent information in this regard:

RELATICISSIIP BEIVIEEIV MILEAGE OF FEDERAL AID SYSTEI WITHIN THE RESFECITVE COINSTRUCTIOIV DISTRICTS AND TOTAL EXPENDITURE FOR CCIISTRUCTIUN AND RECCISSTRUCTION FRCN 1913 TO NOV MBBER, 1949, INCLUSIVE

## Construction

District
Number

Construction
District
Ilame

Percentage of Federal sid Mileage arimary \& Secondary, within Each Construction District

1. Flathead, Lake, Lincoln
2. Blain, Glacier, Hill,
Liberty, Toole
3. Daniels, Phillips, Roosevelt,
Sheridan, Valley

$$
7.40
$$

7.62

$$
7.82
$$

$$
8.25
$$

Sheridan, Valley

$$
9.70
$$

$$
7.42
$$



Iercentage of Total Expenditures for Construction and Reconstruction in

Each Construction District

## Construction

 District NamePercentage of Federal aid Mileage, Irimary \& Secondary, within Each Construction District
4. Dawson, McCone, Irairie, Richland, Tibaux

| 6.88 | 6.74 |
| ---: | ---: |
| 5.94 | 5.11 |
| 10.37 | 8.80 |
| 5.86 | 6.57 |
| 10.36 | 11.29 |
| 7.35 | 8.79 |
| 8.79 | 11.43 |
| 10.64 | 10.02 |
| 9.06 | 7.95 |

The relationship between the total mileage of the Federal Aid System in each construction district and the total expenditures for construction and reconstruction in each construction district generally is quite consistent between districts. This is despite the fact that funds spent in the several construction districts for underpasses and overpasses and on urban system improvements, while included in the expenditure figures on which the percentages showm in column 4 are based, are not apportioned to the districts under the provision of the Highway Construction District Law.

Selection of projects for financing during any fiscal period on the Primary System The Planning Survey Section of the State Highway Department maintains an itemized list showing each officially designated section of every Federal Aid highway included in the State system. This tabulation for every section shows its current condition, and construction and reconstruction priority, or in other words, urgency of need of improvement.

The physical deficienoies or physical condition of each section of the roads on the list are established by data already referred to as currently submitted to the Highway Department by the Bureau of Public Roads.

Construction Priority Formula
The system of developing priorities is quite complicated. It seems important that an attempt be made in this report to try to give some idea of how it is developed and applied.

First, the various factors of deficiency of each section are intelligently weighed and rated. Then the volume of traffic it serves, if on a wellestablished route or as calculated on a prospective route, is combined with the physical factors by a statistical process which engages higher mathematics. The result is a composite index showing each section's relative position of deficiency as compared with all other sections contained in the list.

The process is not free of certain weaknesses and objectionable features. One is worth dwelling upon somewhat. The formula quite apparently proceed on the
assumption that funds will be available to complete the entire system within a reasonable period of time, while obviously this is not the case. Yet in applying the formula, no atterapt is made to sort out those routes or sections which would be nice to have but which the State cannot now afford, and which, if financed now, will defer progress on those routes immediately vital to the maintenance and upbuilding of the economy of the State. This deficiency in the formula furnishes good support to organized minorities who push for financing of some pet project of a champagne taste type notwithstanding the State's ordinarily vin rouge-sized budget.

It is also apparent that the priorities as developed and revised from time to time to keep them up to date, are not master guides to those who are responsible for selecting the projects to make up the periodic reconstruction and construction programs.

No priority list can be followed slavishly. However, once a priority list is soundly established, then the burden of proof for departing from it ought to rest definitely upon the shoulders of the officials who are responsible to the people of the State for so directing the expenditure of funds where they will serve the greatest number of people and contribute most to the selfare of the State。

Based upon evidence submitted by individuals and or ganizations appearing before the Committee and fron other sources, the Committee can but believe that too often other influences of doubtful merit sway decisions of the Commission. Such influences as demands of pressure groups, engineering ambitions, personal desires of minority representatives on the Highway Commissions, and interferences coming from the office of the different Governors, are chief among the influences. A large cross section of the public believes these influences are to commonly heeded by those who are responsible for the expenditure of construction and reconstruction funds, to return the largest service to the traveling public and to the general economy of the State。

It is quite apparent that a broad cross section of the electorate of the State has developed a high state of dissatisfaction with this sort of administration and have come to suspect, if not to believe, that such practice has been far more cormon than is actually the case. Much of this feeling has been fostered by the utter lack, on the part of the Highway Commission, of informing the public about the details of the financial situation with which the Commission is confronted from time to time, about pending programs and reasons therefor, and othervise trying to cultivate public confidence by giving above-board current information to the public which the Commission is appointed to serve.

Any administration which does justice to the problem has for one of its major undertakings to awaken a realization on the part of the people of the State to the facts of the situation, jack up its courage and classify routes in respect to their service potential over the next ten or twenty years. Routes falling in the lower brackets obviously should be shelved for a long period, and while so placed should have no call upon construction or reconstruction funds until the mileage more critical and vital to the State's economy is improved to an acceptable standard. A part of this problom may be solved by transferring some of the mileage of the $7 \%$ system of doubtful qualification to the secondary system. If either or both of these courses are not followed, or if some other scheme is not applied to achieve similar shrinkage in current demands for the allocation of $f$ unds to the over-burdened
mileage of the 7,0 highways，such restricted funds will continue to be griev－ ously diluted as to effectiveness．It is perfectly arparent that if such change in policy as is suggested herein is not made，more and more mileage from the $7 \%$ ，syster will become worn to such a stace of depreciation that cost of maintenance，always steadily increasing，will all but exhaust the sum total of funds that othervise would be available for construction．

Cther possible ways out have been suggested but to the Committee they are impractical ioe。，going beyond requirements of matching Federal Aid，in other words，the state augmenting the construction program，as a number of the States of larger population now do．There appears not to be sufficient volume of merit even to suggest such an idea．

A number of individuals and group representutives advanced the view that with business－like management of the Highway Department the justifiable activities could be financed from the proceeds of savings．In other words，a charge that the Department is grossly inefficient．In view of this rather wide－ spread belief and certain obvious deficiencies in administrative structure of the Department，certain rapresentations pertaining to the subject of vastes follow．

Taste potential is a part and parcel of the functioning of any organization， large or small；the larger the organization and the farther flung the area of operation，the larger the maste potential and the greater the actual。 In public service of a governmental nature，any addition of yolitical influence and activities of highly organized，potent minority groups which are within or skirting the political influence sphere expands materially the inherent waste potential．The degree of waste varies in an organization of the nature of the Highway Department depending upon such factors as the soundness of the basic enabling legislation under which it operates；soundness of the general over－all governing administrative structure within which the business of the organization is conducted；integrity，attitude，outlook，constructive aggress－ iveness，courage，and executive skills of，first the head of the organization and，second，of the subnanagers．In case of the engineering phase of the Department degree of waste depenas upon judgment and professional skills of that body；range of opportunity for leaks；conditions of employment；quali－ fications of manpower available for carrying on the daily work；the relation－ ship between the actual needs and current funds；the extent to which the organization is forced to deviate from objective purpose to meet the demands of political objectives and the influence of small but influential pressure groups。

To minimize the vaste potential in a Department such as the Highway Department， requires among other factors the following：
（1）Soundly conceived and comprehensive enablig legislation。
（2）Sound over－all governing administrative structure。
（3）Fully competent managerial leadership of highest integrity at the head of the organization and in subexecutive positions，unfearful of loss of job for doing always the thing of right in public interest．
（4）High grade professional skills in the technical force．
（5）Tight executive control implemented by adequate job specifications．
（6）Rigid inspections，prompt follom－up on inspection findings to eliminate or minimize discovered deficiencies or excesses or mal－ administration of any sort。
（7）Establishment of an exacting，but at the same time，agreeable working atrnosphere。
（8）Elimination of political influence and the pressure of small but potent minority groups。
(9) Giving due recognition for good work and prompt weeding out of unfit.
(10) Full authority to act, vested in one man, on all administrative matters. ilways operating under broad policies laid down by a Commission.
(11) Public support to the head of the Departnent in his effort to effect economies and to acminister Departrent affairs efficiently, however sharply such practices may conflict with the personal aim of a few individuals or aggressive minority groups.

As earlier written, the Committee had neither the facilities nor time to survey the operations of the Highway Department to determine the degree of inefficiency of any of its sections or subsections. However, it becomes obvious to the Committee even after casual observations, that the costs of current wastes in highway maintenance and other activities of the Department, however large those costs may be, they are not so big as to be enough to match Federal Aid were all wastes eliminated, nor does it appear to the Committee that the saving vould even approximate such a figure.

Justice would be absent in dealing with the problem of wastes as applied to the Highway Department if this report did not point out one of the most potent sources of waste. It resides in the absence of the merit system of making appointments and the upsetting of departmental leadership as the governorship of the State has changed from time to time. The head of an organization cannot be chopped off periodically for no epparent reason except political, without bleeding the entire organization of morale and weakening its will to serve. Such practice also discourages able, and promising young engineers and technicians to seek employment in the organization.

The cost of wastes arising from such practice is difficult to appraise yet it is none the less real and damaging to public interest.

In an endeavor to promote sounder administrative procedure and a sufficient financial progran the Comittee has devoted the onsuing sections of this report to those subjects.

After a careful study made by your Comittee it is recommended that a major change be made in the administrative pattern of our Highway Department. We have held many hearings in lontana vith organizations vitally interestec in Montana and her hifhways, and have studied programs submitted to legislative bodies by neighboring states; they were all unanimous in their declarations that the administration of the IIighway Department should be on a sound, business basis, so that the influence of special political and Iressure groups will be removed from the consideration of the operations of the Department.
Montana's future highway program will require a heavy financial contribution from its citizens for many years to come. To receive the needed support of these taxpayers and voters in order to met the tremendous task of construct ing and maintaining the Vont ana highway system in the years ahead, all doubt as to the progran and the folicies of our future Hichway Commissions must be removed. Only by confidence can we hope to accomplish the continuous tasks that lie ahead. Our small population, coupled with the hundreds of miles of highways that are needed to adequately serve our State, impose a financial restriction so there is little hope that we can reasonably reach a point at any time in the next fifteen years when we can say that our highway system is $75 \%$ complete.

## SUGGESTED COIZISSSION REORGLINIZATION

CO:FISSICII
It is hereby recomended that our present 5 -man Comrission be replaced by a 12-man Corvission, or mdvisory Board, to be appointed by the Governor. The members of the Cormission will be removed only after due hearing for proved malfeasance, nonfeasance, inefficiency, or neglect of office. One member shall be appointed from each of the present 12 Financial Districts. Each member, having fully demonstrated his interest in and knowledge of the highway system in his District, would be appointed to serve a term of eight years, however, at the institution of the new Comission, appointments would be made as follows:

Financial Districts 10,5 and 3 two year term
Financial Districts 4,2 and 8 four year term
Financial Districts 7,6 and 12 six year term
Financial Districts 1,11 and 9 eight year term
All succeeding appointrments to be for an eicht year term.
At its first meeting the Comission would organize by electing from its members a Chairman and a Secretary.

Commission liembers would be reimbursed on a per diem basis of at least 15.00 per day plus traveling expenses for officially called neetings of the Comission.

## EROGRAM

A comprehensive program of construction and reconstruction shall be determined by the Commission, and, with the exception of emereency operations, shall be made public at least six months in acvance of the actual call for bids for construction or reconstruction。 Each Financial District shall be advised annually as to the amount of fund allocated for construction and reconstruction in each District, as well as the projects on which it is proposed that the funds be spent. Under most past Cormissions the first notice of new projects in a District was general a published call for bids.

The Comission shall study the suitability of current legislation in rela－ tionship to current requirements．If deficiences develop，the Comission shall formulate programs to present for the consideration of the Legislature． Such procraris shall encompass all phases of tho problens of keeping highway development abrerst of ever－chuncing conditions．

The Comission in addition to supportinc beneficial legislation，should be in a position to express oprosition to proposed legislation which it is deemed would be detrinental to tho best interests of the entire State．

## D IIJISTRATOR

Tho Cormission shall norne and employ a full time adrinistrator，who shall be responsible only to then．The idministrator shall be a man of proven ability in the field of adrinistration of large scale public works，and possessed of those qualities consistent with the duties he shall discharge． The idministrator shall have full authority to employ，direct，and dis－ charge．The $\dot{A} d r i n i s t r a t o r ~ s h a l l ~ h a v e ~ f u l l ~ a u t h o r i t y ~ t o ~ e m p l o y, ~ d i r e c t, ~$ and discharge all iichway Lepartrent personnel．The Highway Comission would have the only authority to employ and discharge the idministrator．

The idministrator would be paid a salary of at least $10,000,00$ per year． He would necessarily be an executive of proven ability in matters of：
l）Organization and manamement of large scale operations similar to the lifighar lepartrent in responsibilities and scope。
2）Broad conception of public relations requirements of the position．
3）Fersonnel management．
4）Financial management。
5）Engineerinf fundamentals．
The Ldministrator shall have full responsibility of organizing the Department， employing and directins the personnel of the operating force，and supervising all phases of the activities of the Highway Department．

## ERIT SVGTMM

It is also recomended that a survey be nade of all personnel employed by the Highway jepartrent，and that a suitable merit plan be inaugurated by the new idministrator which will justly compensate employees for long and faithful service to ilontana citizens，Only throuch such a plan can the complete objectives of thorough efficiency in this most important state department be actually attained．

## RESULTS EXFECTED

A well－rounded administration program would tend to result in the following achievements：

1）Iraroved Public Relations
A．Give representation to each Financial District。
B．Renove politics by the appointment of a bi－partisan Commission。
2）Inproved Highway Erogram
A．Capable llanagement．
B．Instill confidence in all Highway personnel．
C．Eliminate waste through the economics of a centralized authority．
D．Provide for consistent，long－range progran capable of flexibility。
3）Improved l＇irances
3．Taxpayers vill increase tax payments if assured of a well managed lepartment．
B．Get more miles of highway per dollar spent．

## Proposed Administrative Oroganization




PERSONNEL


PUBLIC RELATIONS


HIGHWAY PATROL
September, 1950

In September of 1949 when we were asked to make a study of highway finances in Montana, we asked IIr.C.E.Stahl, then Chief Engineer, to have his department prepare a summary of the needed improvements. We asked that they figure the various road costs necessary to bring our roads to reasonable standards cormparable to roads in other parts of the Facific Northvest. e asked that the secondary system be included so we would have reasonable secondary roads throughout the state to aid in the development of Montana and to give our citizens good transportation in all parts of the State since good roads result in a considerable saving in time and money to farmers who have to transport thoir produce over these various roads. We also asked that the urban system be included.

The figues as prepared by the IIighway Department are shown on Table No. 5 and the total for all needs is shown as $\$ 340,140,000$. (See Table 6 for deficiencies by Routes). If this program was to be completed in ten years it would require approximately $\$ 34,000,000$ per year, which is considerably more than the people of Liontana can afford to pay. It would also result in an annual prograrn which would require the building of highways with 100 per cent State money, since the Federal Aid program would not provide for such a large expen diture per annum.

Our Cormittee did not feel that it would be advisable to recommend such a program, nor did we feel that it would be acceptable to the people to arrange a financial progran by which Montana would exceed its Federal Aid. We decided that it would be inadvisable to do any further highway financinf by the sale of bonds since this just defers the time when we will have to pay the loan, and it would add to the expense. Table No. 7 shows our present bonded indebtedness and the annual payments necessary to retire the present bonds. These bonds were sold so Montana would have money with which to meet its Federal Aid. However, you will note that for the next several years we will have to pay for the road construction program which is now in progress and we do not believe that it would be vise to repeat this in future years.

We also believe that if Montana does not arrange to meet the Federal Aid which is offered from year to year and is faced with the loss of a sizeable anount of Federal Aid sometime in the future, there will be a demand for the sale of bonds which will just be a repetition of what we have done in the past. Furthermore, we do not believe that it is wise for Montana to be continually behind in its road construction program when it could implement the program if the proper funds were raised in the State to meet Federal Aid as it becomes available. For example, Montana is now almost two years behind in its financial prograrn to meet Federal Aid. Hence, we will not have the necessary funds to meet the Federal Aid. A new 1950 Act of Congress will make money available for the fixcal year of 1952 beginning July l, 1951, but Montana will not be in a position to use this money until about December, 1952, or January, 1953.

## OUR ROADS ARE WEARING OUT

The Primary System in Montana is estimated to be wearing out at the rate of 330 miles per year. At no time durjng the postvar years has it been feasible to reconstruct the system at a rate equal to this depreciation. A total of


RCUTE IILTAGE BY DEFIC IENCY IERCTINAGE GRCUPS
TABLP $\# 6$

| RTE 0-10\% |  | 10.1-20\% | 20.1-30\% | 30.1-40\% | 40.1-50\% | 50, 1-60 | 60.1-100\% | \% Rte. Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 46.430 | 28.313 | 91.688 | 203.332 | 166.892 | 144.138 | 10.192 | C91.035 |
| 2 | 91.535 | 47.740 | 83.849 | 146.849 | 174.497 | 131.040 | -7.247 | 712.726 |
| 3 | 39.159 | 13.843 | 35.444 | 104.610 | 83.903 | 153.355 | 15.474 | 44.5 .788 |
| 4 |  |  | 6.852 | 12.212 | 4.574 | 31.514 |  | 55.152 |
| 5 | 11.698 | 4.441 | 1.918 | 24.852 | 64.844 | 72.072 | 8.764 | 188.589 |
| 6 | . 604 | ---- | 15.200 | 32.023 | 40.846 | 28.364 | ---- | 117.037 |
| 7 | . 018 | .473 | 3.457 | 56.585 | 20.265 | 13.475 | ---- | 94.273 |
| 8 | 3.125 | 12.243 | 5.319 | 28.932 | 37.822 | 20.285 | ---- | 107.726 |
| 9 | ---- | ---- | 13.969 | ---- | 27.521 | 16.030 |  | 67.520 |
| 10 | 6.224 | 5.785 | 10.469 | 15.706 | 26.975 | 44.654 | 2.270 | 112.063 |
| 11 | 5.628 | 4.959 | 23.480 | 34.963 | 42.746 | 83.812 | 28.327 | 223.915 |
| 12 | ---- | , | 8.732 | ---- | 1.044 | ---- |  | 9.776 |
| 13 | ---- | ---- | 59.282 | 22.616 | 24.321 | . 113 | ---- | 106.332 |
| 14 | 8.982 | 12.955 | 66.572 | 56.880 | 95.837 | . 594 | 17.550 | 259.370 |
| 15 | 20.176 | 23.764 | 69.335 | 32.717 | 112.756 | 73.274 | 35.862 | 367.884 |
| 16 | 10.680 | 26.910 | 21.208 | 9.762 | 30.634 | 121.247 | 86.553 | 306.994 |
| 17 | 6.191 | 6.910 | 7.308 | 10.119 | 15.015 | 34.813 | --.-- | 73.446 |
| 18 | . 144 | --- | . 195 | 1.047 | 14.565 | 67.698 |  | 83.649 |
| 19 | 10.211 | . 177 | 6.901 | 19.958 | 16.992 | 9.629 | 3.350 | 67.218 |
| 20 | 11.828 | . 519 | 23.997 | 4.403 | 12.842 | 11.962 | ---- | 65.551 |
| 21 | 15.404 | 24.934 | . 204 | . 213 | 20.325 | 49.824 | ---- | 110.904 |
| 22 | . | . 865 | 16.846 | 11.060 | 77.119 | 20.524 | . 056 | 126.470 |
| 23 | 2.739 | 8.795 | 9.558 | . 238 | 62.539 | 55.932 |  | 139.801 |
| 24 | - |  | 10.311 | 45.023 | 20.912 | 21.748 | 62.467 | 160.461 |
| 25 | ---- | 14.607 | 9.233 | 3.314 | 1.848 | 23.863 | ---- | 52.856 |
| 26 | ---- | , | . | , | 7.646 | ---- | ---- | 7.646 |
| 27 | ---- | ---> | . 766 | 55.971 | 4.538 | 7.410 | 12.209 | 80.894 |
| 28 | . 835 |  | 4.239 | 19.392 | 17.300 | ---- | ---> | 41.766 |
| 29 | 20.510 | 15.893 | 9.236 | 6.179 | ---0 | . 077 | 13.824 | 65.719 |
| 30 | ---- | -.-- | 10.149 | 14.064 | ---- | ---- | ---- | 24.213 |
| 31 | ---- | -->>) | ---- | ---- | 13.806 | ---- | --- | 13.806 |
| 32 | ---- | --- |  | 12.237 | 39.070 | ---- | --..- | 51.307 |
| 33 | 9.262 | . 185 | ---- | 12.038 | .426 | 20.850 | 21.158 | 63.919 |
| 35 |  |  | ---- | 5.560 | ---- | 7.064 | 41.998 | 54.622 |
| 36 | ---- | --- | 6.612 | 19.677 | 17.400 | 5.118 | - | 48.807 |
| 37 | ---- | ---* | ---- | ---- | - | --- | 104.217 | 104.217 |
| 38 | ---- | --.- | 4.384 | ---- | 2.864 | 1.876 | ---- | 9.124 |
| 39 | ---- | ---- | ---- | -- | ---- | 14.281 | ---- | 14.281 |
| 40 | ---- | ---- | 1.397 | . 631 | ---- | ---- | ---- | 2.028 |
| 41 | 1.374 | . 909 | 4.421 | --.-- | -->. | ---- | ---- | 6.704 |
| 42 | . 353 | . 074 | 17.560 | -- | . 218 | ---- | 57.200 | 75.405 |
| 43. | . 537 | 1.247 | ---- | 7.570 | ---- | 21.762 | 14.162 | 45.278 |
| 44 | 2.287 | 3.106 | 1.287 | ---> | 5.715 | ---- | ---- | 12.395 |
| 45 | 19.609 | 7.387 | 23.568 | 5.720 | 8.014 | ---- | 19.069 | 83.367 |
| 46 |  |  | ---- | 27.393 | 2.945 | 4.823 | 42.265 | 77.426 |
| 47 | ---- | -->0) | ---* | --- | - | ---- | 6.187 | 6.187 |
| 48 | 7.764 | 2.382 | . 037 | . 988 | . 468 | ---- | 18.863 | 30.502 |
| 49 |  | 6.451 | 10.751 | ---- | ---- | ---- | 10.321 | 27.523 |
| 50 | ---- | . 241 | . 500 | 8.014 | 16.677 | 36.039 | ---* | 61.471 |
| otals | 353.307 | 269.198 | 696.234 | 1072.817 | 1344.721 | 1349.290 | 669.585 | 5755.152 |
| ercent | 6.14\% | 4.68\% | 12.10\% | 18.64\% | 23.36\% | 23.44\% | $11.64 \%$ | 100\% |



270 miles of roadvay were let to contract during 1949 at a cost of $\$ 7,148,000.00$ ． This gap between rate of replacenent and rate of failure will become progressively greater in future years at the present rate of income．The borrowed money，wich financed a large portion of the construction during 1949 and carlier postway years， has now been expended and future construction must rely on current revenue．

It is estimated that there will be approximately $\$ 3,000,000,00$ in State funds available for construction during 1951 after naintenance and other fixed expenses have been deducted．Assuming that this anount will be prorated to the Primary and Secondary Systems on the same basis as Federal aid allocations，approximately $\$ 1,800,000,00$ will be available for use on the Primary System．Matching this arount with Federal aid should provide a total construction progran of about $3.3,200,000.00$ which should finance the construction of about 140 miles of new road．On this basis the rate of reconstruction will be less than half the rate of road failure．

## $\$ 43,000,000$ Progran Possible

According to figures received from the Bureau of Fublic Roads concerning the status of the Federal Aid Program as of May 31，1950，Montana had an unprogramed balance of $\$ 5,826,000$ ．There was also $\$ 9,587,000$ in Federal funds which were programed and $\} 1,789,000$ in Federal funds had been planned but no construction had been started．In other words，$\$ 17,202,000$ in Federal funds were available to Montana as of May 31， 1950 but no construction was under way involving these funds because of our shortage of matching funds．If me had had the necessary matching funds a program of approximately $30,000,000$ could have been under vay in addition to what was actually under construction．As of that date Montana had under construction projects amounting to $\$ 13,243,000$ instead of approx－ imately $\$ 43,000,000$ 。

## HIGHTIAYS BEIEFIT EVERYONE

Everyone benefits from good highways because of their attractions for tourists who bring us one of the largest cash returns enjoyed by the State； they increase the value of the property even though it is not immediately ad－ jacent to a highway，and they increase the value of the products of farm，mine， and forest，by making them more accessible to market and less expensive to haul． Studies by Cornell University in New York found that farms located on hard－ surfaced roads were valued 19 percent higher than those on dirt roads。＊ Another of their studies based upon farmer＇s opinions indicated that a gravel road increased the value of such farms by 48 percent。＊＊

A long－famous remark by Commissioner MacDonald says that，＂We pay for good roads whether ve have them or not，and we pay more for them if we don＇t have them than if we do．＂Careful studies have shown that vehicles that can be operated for 3.8 cents per mile on paved roads or 4.5 cents on gravel roads

[^1]cost 7.8 cents to operate on earth roads．Obviously it takes only a very small daily traffic volume to justify economically the cost of an improvement．

The farmer whose mud road is replaced by a good gravel surface often does not realize any actual saving．Instead，driving becomes so much easier and more pleasant that he drives much more and spends even more than before the improve－ ment．Life does not become cheaper，it becomes better．His children go to school， the doctor or nurse can cone if needed，the family can attend Church，meetings or basketball games．These benefits are not measured in cents per mile．

Our highways may be considered similar to other utilities which our people use in their daily lives．The average light bill in lontana per family per year is $\$ 52.53$ ．The average tele phone bill is $\$ 27.72$ 。 If this family owns a light or mediun size tudor sedan their gasoline tax，except for temporary use taxes the only revenue for the highway fund，for one year will be \＄34．56．If their automobile is a fordor sedan the tax will be $\$ 43.44$ ．Table No．8．An automobile is essential for living in Anerica and people，no doubt，consider it as necessary to their livelihood as．lights and telephones．It is also sur－ prising to find that if we consider the average family to be $3 \frac{\pi}{2}$ people，the average family spends $\hat{\#} 97$ 。 24 per year for liquor through the Montana liquor stores．

While the owner of a medium sized car pays approxinately $8 \not \subset$ per mile to own and operate it，only about one－half cent goes to build the roads，maintain them， plow the snow，paint traffic lines，erect warning signs，etc。

Table No． 9 shows the distribution of traffic on our road system and you will note that the use of the systen is divided almost equally between rural and urban residents．On the primary systen foreign residents or tourists account for $13.3 \%$ of the traffic and rural citizens account，for $18.6 \%$ ．The secondary systen is primarily for the benefit of rural residents as only $25 \%$ of this traffic is accounted for by urban residents．

Highway department $f$ unds are spent on the primary and secondary systems which totals 8,787 miles as shown by Table No．10。

Table No， 10 also shows the primary and secondary mileage by counties and financial districts．

## ISSIGMTMT OF FINANCIAL RESIONSIBILITY TC HIGHWAY BENEFICIARIES＊

The assignment of financial responsibility for highways is fundanentally a problem of determining who benefits from such highways and apportioning costs accordingly．Determination of the method of assigning this responsibility must be in the light of practical，financial，administrative and public interest factors．

Practical solution of this problen is complicated by the fact that： the modern road plant is a multiple－purpose facility，producing services that are distributed unevenly throughout society．All classes of roads serve in one degree or another to give access to

[^2]ROLD USER AID PFRSCNAL YROEERTY TAKES ON SELECTED VMHICLES*


[^3]|  | Te70山 |
| :---: | :---: |
| 7นəpธฺsəช | UR¢J^ |
| ұนәрธฺsəช | Teany |

ALU SYSTEMS-MONTANA RESSIDENTS

COUNTY ROADS
Rural Resid
Urban Resid
Sub-Total



## KONTANA PRIMARY AND SECONDARY HIGHNAY MILPAGE BY CCUNTY AND FINANCIAL DISTRICT <br> AS OF DECEMBER 31, 1949

TABLE NO. 10
FINANCIAL DISTRICT IIO. 1
Flathead
Lake
Lincoln
Total
FIIANCIAL DISTRICT NO. 2
Blaine
Glacier
Hill
Liberty
Toole
Total
FINAICIAL DISTRICT NO. 3
Daniels
Fhillips
Roosevelt
Sheridan
Valley
Total
FINANCIAL DISTRICT NO. 4

| Dawson | 104.198 |
| :--- | ---: |
| McCone | 143.009 |
| Prairie | 28.737 |
| Richland | 82.491 |
| Wibaux |  |
| Total | $\underline{40.679}$ |

FINANCLIL DISTRICT NO. 5

Fergus
Garfield
Petroleum
Total
FINANCIAL DISTRICT IVO。6
187.678
135.957
$\frac{40.124}{363.759}$

| 111.434 | 299.112 |
| ---: | ---: |
| 23.900 | 159.857 |
| 23.049 | $\frac{63.173}{522.142}$ |

land and duellings; to facilitate the movernent of good and people primarily associated with comunity life; to supply the avenues of optimu intercorrunity mobility; and, finally, to expedite the administration of various essential functions of government. Thus it follows that individuals and groups of society benefit in widely varying degrees from the values produced by the several parts of the road plant."

An observation of the two extremes of the road plant and the najor puriose each serves vill clarify the concept of the problem. There is an extensive mileage of comraratively lightly traveled roads and streets whose predominant purfose is to provide access to land and dwellines, and in distinct contrast there is a linited mileage of inter-comunity state highways designed to carry the bulk of motor vehicle traffic. Between these two classes of highway there is a network of highways connecting smaller communities and feeding traffic from land access roads to the state highay systerm, which network serves a multitude of purroses.

To deternine who benefits from the various types of road it is necessary to analyze the three major beneficiaries:

1. Owners of land and property;
2. The hiehway users;
3. The public and government.

## Benefit Analysis

1. Benefits to Owners of Land and Eroperty

Owners of land and property receive the very basic benefit of access to their lands, dwellings and other property.

Obviously, until flying becomes commonplace, it is essential that a man have the right of passage by land, for without it his property mould have limited use or value.

## 2. Benefits to Highway Users

Some benefits accrue to highway users as a group from the use of all roads, including even the little-traveled and often unimproved access roads, but as previously indicated most of the benefits accrue to them on the limited mileage of inter-community state highways and urban arterials desiened to carry the bulk of the traffic. Highway users are benefited by improvements which increase speed, mobility and convenience of travel; ensure cheapness of transportation; and increase safety. Since the motorist's tirae is limited, speed and mobility will determine to a considerable detree the length and frequency of the trips he takes. The reduction of concestion and other restrictions to a smooth, free flow of traffic reduces motoring, fatigue and other unpleasantness. Convenience and aesthetic factors which make travel enjoyable enrich life generally. The lower the cost of transportation, the larger the number of people who can afford it and the greater the use each person can make of it. Of definite benefit is the assurance that both persons and freight will arrive at their destinations safely.
3. Benefits to Government and the General Public.

The public generally benefits frorn the roads which local, State and Federal Govemments provide for their protection, use and enjoyment. Strategic highways facilitate movements of troops and military supplies in times of war and such movements as may be necessary for the prevention of internal disorder

FAGE 2 of TABLE NO. 10 FRIMARY FINAICIAL DISTRICT NO. 7 MILEAGE

| Broadwater | 81.832 |
| :--- | ---: |
| Jefferson | 108.008 |
| Lewis and Clark | $\frac{191.995}{381.835}$ |
| Total |  |

FINANCIAL DISTRICT NO. 8

| Granite | 94.985 |
| :--- | ---: |
| Mineral | 79.164 |
| Missoula | 1.24 .548 |
| Fowell | 92.913 |
| Ravalli | 103.200 |
| Sanders | $\underline{149.059}$ |
| Total | 644.469 |

FINANCIAL DISTRICT NO. 9

| Beaverhead | 158.142 |
| :--- | ---: |
| Deer Lodge | 65.850 |
| Madison | 159.531 |
| Silver Bow | $\frac{74.015}{457.538}$ |
| Total |  |

FINANCIAL DISTRICT NO. 10

| Gallatin | 158.142 |
| :--- | ---: |
| Meagher | 103.524 |
| Park | 124.893 |
| Sweet Grass | 65.541 |
| Wheatland | $\frac{79.913}{} \quad$ Total |

FINANCIAL DISTRICT NO. 11

| Big Horn | 142.775 |
| :--- | ---: |
| Carbon | 92.650 |
| Golden Valley | 29.125 |
| Tiusselshell | 102.503 |
| Stillwater | 38.615 |
| Treasure | 28.807 |
| Yellowstone | $\underline{140.182}$ |
| Total | 574.657 |


| 95.190 |
| ---: |
| 68.761 |
| 32.503 |
| 14.651 |
| 48.586 |
| 15.716 |
| 85.167 |
| 360.574 |

237.965
161.411
61.638
117.154
87. 201
44.523
$\frac{225.349}{935.231}$
FINANCIAL DISTRICT NO. 12

| Carter | 51.123 | 80.727 | 131.850 |
| :--- | ---: | ---: | ---: |
| Custer | 163.320 | 40.563 | 203.883 |
| Fallon | 86.558 | 36.015 | 122.573 |
| Fowder River | 90.506 | 46.317 | 136.823 |
| Rosebud | $\underline{150.178}$ | $\frac{51.198}{254.820}$ | $\frac{201.376}{796.505}$ |
| Total | 54.685 | $3,027.216$ | $8,787.097$ |

SYSTEM Total secondary 6822 miles which is $10 \%$ of total rural mileage, includes roads down to 25 vehicles per day.
and civil insurrection．National，state and comunity systems of highways make it possible for the different levels of government to bring to each citizen the benefits of policing，fire protection，communication，commerce and trade，postal service，education and recreation．

Thile everyone benefits from our hichways，Table No。 7 shows that total taxes for a representative group of vehicles in Montana is abcut average for the country as a whole and except for passenger cars is well below the top．Ho one in Montana is being hurt．

## Federal Aid

It might be well to state that Federal 1 id to highways does not cost the Federal Government anything that is not returned by the transportation in－ dustry．In fact，the Federal Government collected $\$ 1,285,757,000$ from the transportation industry in the form of gasoline tax，excise tax on motor ve－ hicles，parts，and tires during 1949＊（See Table No。1l）；whereas，they only returned to the states in the form of Federal Aid，$\$ 450,000,000$ ，of which Montana received 1.52 plus per cent．You will readily see that the Federal Government collects approximately three times as much as it returns to the states and the balance is used for other Federal Government expenses．Table No．ll shows the estimated amount of automotive excise taxes which Montana will contribute to the Federal Government for 1949 will be $\$ 7,325,323$ ，whereas lont－ ana will receive about $\$ 7,100,000$ Federal Aid．Facts concerning Federal excise tax collections are given here only as a matter of information since the re is no connection between Federal excise tax collections and Federal Aid to highways．

The Federal Govermment increased its tasoline tax from one cent to one and one－half cents in 1942，as an energency measure．At the same time they doubled the excise tax on motor vehicles，parts，tires，and lubricating oil．Despite the fact that the war ended five years ago these emergency taxes have not been reduced．All of the rates have remained at their war time level．

Montana receives $57 \notin$ for every $43 \notin$ the State contributes for construction and reconstruction．Therefore，it does not seem advisable to forego Federal Aid especially when we pay more．into the Federal Treasury then we receive in Federal Aid。（See Table ilo。12）

## Failure to Match Federal Aid

If we fail to natch the proposed Federal Aid there will be no construction on the Secondary System in 1951，and very little on the Primary System be－ ginning in 1952．There will be no construction of any kind beginning in 1955． See Table No．13．

## Amount Necessary

In order to decide on the approximate figure that Mont ana would need to meet its Federal Aid，we selected what seemed to be the most likely progran to
＊For Fiscal year ending June 30，1950，the total was $\$ 1,420,564,980$ an all time record and a gain of 7.1 over the previous Fiscal year．（Highway High－ lights 9／50）

FEDERAL AUTONOTIVE EXCISE TAXES
TABLE NO. 11
ESTIMATED IAYMTNS BY IIGGHVAY USERS (PRELMINARY)
CALTIDAR YEAR 1949 (Federal Furchese Excluded)

| State | Gasōline | $\begin{gathered} \text { Lubricat } \\ \text { ing Oil } \\ \hline \end{gathered}$ | iutomobiles | Trucks | Tires \& 'ubes | Tarts \& Accessories | Totals |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alabama | 7 | 599,112 | 5,349,918 | 2,538,314 | 2,291,397 | 1,539,883 | 19,507,969 |
| irizona | 2,848,608 | 237, 384 | 1,901,211 | 676,884 | 907,912 | 610,142 | 7,182,141 |
| Arkansas | 4,792,896 | 399,408 | 3,094,994 | 2,572,159 | 1,527,598 | 1,026,589 | 13,413,644 |
| California | 41,146,560 | 3,428, 380 | 35,592,431 | 6,452,961 | 13,114,283 | 8,813,168 | 108,548,283 |
| Colorado | 4,295,520 | 357,960 | 3,890,850 | 1,477,863 | 1,369,073 | 920,056 | 12,311,322 |
| Connecticut | 6,104,160 | 508,680 | 6,057,345 | 846,105 | $1,945,525$ | $1,307,448$ | 16,769,263 |
| Delaware | 1,175,616 | 97,968 | 1,326,426 | 338,442 | 374,694 | 251,805 | 3,564,951 |
| D. Cf | 2,532,096 | 211,008 | 2,697,066 | 349,724 | 807,033 | 542,349 | 7,159,276 |
| Florida | 10,444,896 | 870,408 | 7,693,271 | 2,232,968 | 3,329,010 | 2,237,189 | 26,898,742 |
| Georgia | 9,495,360 | 791,280 | 7,383,771 | 3,203,918 | 3,026,373 | 2,033, 808 | 25,934, 510 |
| Idaho | 2,170,368 | 180,864 | 2,122,282 | 947,638 | 6919742 | 464,870 | 6,577,764 |
| Illinois | 25,592,256 | 2,132,688 | 31,524,724 | 6,001,705 | 8,156,796 | 5,481,597 | 78,889,766 |
| Indiana | 13,836,096 | 1,153,008 | 13,617,973 | 3,057,260 | 4,409,858 | 2,963,549 | 39,037,744 |
| Iowa | 9,811,872 | 817,656 | 9,329,196 | 3,023,415 | 3,127,252 | 2,101,602 | 28,210,993 |
| Kansas | 6,827,616 | 568,968 | 6,853,201 | 2,606,003 | 2,176,106 | 1,462,405 | 20,494,299 |
| Kentucky | 7,053,696 | 587,808 | 5,615,203 | 2,481,908 | 2,248,163 | 1,510,829 | 19,497,607 |
| Louisiana | 6,511,104 | 542,592 | 5,968,917 | 2,188,592 | 2,075,227 | I, 394,611 | 18,681,043 |
| Ivaine | 2,577,312 | 214,776 | 2,122,282 | 710,728 | 821,444 | 552,034 | 6,998,576 |
| Maryland | 6,058,944 | 504,912 | 6,411,059 | 1,161,984 | 1,931,114 | 1,297,763 | 17,365,776 |
| Mass。 | 11,575,296 | 964, 608 | 12,203,119 | 1,489,145 | 3,689,293 | 2,479,309 | 32,400,770 |
| Vifichigan | 21,025,440 | 1,752,120 | 29,358,229 | 4,128,992 | 6,701,254 | 4,503,432 | 67,469,467 |
| Minnesota | 9,857,088 | 821,424 | 9,815,552 | 2,639,848 | 3,141,663 | 2,111,286 | 28,386,861 |
| :rississippi | 5,380,704 | 448,392 | 3,669,779 | 2,188,592 | 1,714,945 | 1,152,491 | 14,554,903 |
| Missouri | 13,112,640 | 1,092,720 | 11,982,048 | 3,745,425 | 4,179,277 | 2,808,592 | 36,920,702 |
| Pontana | 2,486,880 | 207,240 | 2,166,496 | 1,139,421 | 792,622 | 532,664 | 7,325,323 |
| iVebraska | 5,064,192 | 422,016 | 4,686,705 | 1,996,808 | 1,614,066 | 1,084,698 | 14,868,485 |
| Nevada | 859,104 | 71,592 | 618,999 | 214,347 | 273,815 | 184,011 | 2,221,868 |
| Tew Hamp. | 1,537,344 | 128,112 | $1,370,640$ | 372,286 | 4839,984 | 329,283 | 4,227,649 |
| New Jersey | 14,243,040 | 1,186,920 | 15,165,471 | 2,718,817 | 4,539,559 | 3,050,712 | 40,904,519 |
| New i:Texico | 2,532,096 | 211,008 | $1,591,711$ | 868,668 | 807,033 | 542,349 | $6,552,865$ |
| New York | 30,249,504 | 2,520,792 | 37,979,998 | 5,606,856 | 9,641,160 | 6,479,131 | 92,477,441 |
| IJ. Carolina | 10,851,840 | 904, 320 | 8,535,341 | 3,226,480 | 3,458,712 | 2,324,352 | 29,299,045 |
| IN. Dakota | 1,492,128 | 12\%, 344 | 2,078,067 | 1,139,421 | 475,573 | 319,598 | 4,629,131 |
| Chio | 26,134,848 | 2,177,904 | 27,678,089 | 4,681,781 | 8,329,731 | 5,597,814 | 74,600,167 |
| Oklahom | 6,918,048 | 576,504 | 6,013,131 | 2,775,224 | 2,204,929 | 1,481,774 | 19,969,610 |
| Cregon | 5,832,864 | 486,072 | 5,040,419 | 1,511,708 | 1,859,058 | 1,249,339 | 15,979,460 |
| Penna。 | 28,621,728 | 2,385,144 | 30,728,869 | 5,426,353 | 9,122,353 | 6,130,478 | 82,414,925 |
| Rhode Island | 2,079,936 | 173,328 | 2,254,924 | 406,130 | 662,920 | 445,501 | 6,022,739 |
| S. Caroline | 5,697,216 | 474,768 | 4,156,135 | 1,421,456 | $1,815,824$ | 1,220,285 | 14,785,684 |
| S. Dakota | 1,808,640 | 150,720 | 2,033, 853 | 947,638 | 576,452 | 387,392 | 5,904,695 |
| Tennessee | 8,003,232 | 666,936 | 7,206,915 | 3,124,948 | 2,550,800 | 1,715,210 | 23,267,041 |
| Texas | 28,576,512 | 2,331,376 | 22,283,957 | . $3,404,643$ | 9,107,942 | 6,120,793 | 76,875,223 |
| Utah | 2,486, 880 | 207,240 | 1,945,425 | 676,884 | 792,622 | 532,664 | 6,641,715 |
| Vermont | 1,220,832 | 101,736 | 1,237,998 | 406,130 | 389,105 | 261,490 | 3,617,291 |
| Virginia | 9,359,712 | 779,976 | 9,506,053 | 2,538,315 | 2,983,139 | 2,004,754 | 27,171,949 |
| * ashington | 7,912,800 | (559,400 | $6,808,987$ | 1,647, 084 | 2,521,977 | 1,694,840 | 21,245,038 |
| V. Virginia | 4,838,112 | 403, 176 | 3,316,065 | 1,229,673 | 1,542,009 | 1,036,274 | 12,365,309 |
| ./isconsin | 10,354, 464 | 862,872 | 11,053,550 | 2,651,129 | 3,300,188 | 2,217,819 | 30,440,022 |
| - voming | 1,582,560 | 131,880 | $1,105,355$ | 530,226 | 504,395 | 338,968 | 4,193, 384 |
| TCT.LS | 2, 160,000 | 37,680,000 | $442,142,000$ | $112,814,000$ | 144,113,000 | 96,648,000 | 1,285,757,00 |

## National

Prinary 45\%

Secondary 30\%
Urban 25\%
I.iontana

Primary 57\%
Secondary 39\%
Urban 4\%
Federal Aid is apportioned among the States as follows:

| Area | $331 / 3 \%$ ) |  |
| :--- | :--- | :--- |
| Fopulation | $331 / 3 \%$, | $100 \%$ |
| Post Road Mileage | $331 / 3 \%$, |  |

To arrive at matching funds:
Area of Federal land in State, Montana has $14 \%$ Federal land
Divide by $2=7 \%$, added to $50 \%$
gives us $57 \%$ Federal Aid.


\&T ON MTGVL
be enacted by the 8ist. Congress, which is in the form of the wittington Bill and would provide annual Federal Aid, in the amount of $\$ 500,000,000$, an ainual increase of $\$ 50,000,000$, compared to the 1948 Act. The $\$ 500,000,000$ firure was also recommended by Fresident Truman in his Message to Congress, and was the program supported by IIr. McDonald Cormissioner of the Bureau of Iublic Roads. In addition to this there was a companion bill introduced for approximately $\$ 70,000,000$ for the Interstate System which includes three highways in IMontana, Nos. 10, 91, and 87.

Table No. 14 is based on the above information and you will note that it would then require State funds in the anount of $\$ 6,083,479$; whereas, you will note that present state funds available for our current revenue amount to $\$ 3,175,000$, leaving an annual requirement of $\$ 2,908,479$ 。However, you vill also note that of the available State funds, $\$ 1,368,000$ are now provided by current revenues which are temporary and were enacted by the 1949 Session of the lontana Legislature as a stop-gap to assure us of a highway program and to give the state time to make a financial study of its highways program.

Temporary taxes are listed on Sheet 2 of the 1950 Financial Forecast Table No. 15, and if you will refer to the forecast for the fiscal year 1950, you will note that the total anticipated funds available are $\$ 15,244,000$. However, this includes $\$ 4,400,000$ of debenture bond $f$ unds which are non recurring and which will have to be retired as shown on Table No. 7. The financial forecast for the fiscal year 1950 also shows the expenditures which again total $\$ 15,244,000$ using all of the various incomes as shown in the same schedule. You will note that the first itern of expenditure is payment on the outstanding debentures in the amount of $\$ 1,422,000$, this, as stated before, is paying for highways which should have been built out of current funds together with the available Federal Aid Funds, and then it would not have been necessary to sell the $\$ 12,000,000$ in debentures or lose the Federal Aid. In this case there is one very reasonable excuse and that is the war which disrupted the entire highway progran, both as to finances and construction, and the necessity of this program can properly be charged as one of the costs of the war. However, such a procedure should not be necessary during peace time。

## NET GASOLINT TAX TO HIGHVAY FUND

Lccording to Table No. 16 the net gasoline tax received by the highray fund for 1949 was $\% 651,460,52$ and you will note that there has been a substantial increase in the amount of gasoline revenue per year since its inception in 1924. The Montana Petroleurn Industries Committee, which appeared at one of our Sessions, felt that the increased gasoline revenue, based on an estimated annual increase of $10,000,000$ gallons, would be sufficient to operate the highway program without increasing the tax rate. However, when we consider that maintenance alone will require approximately $\$ 6,000,000,00$, and when we realize that a great deal of our construction program is being deferred because of the lack of matching funds, we are convinced that the present gasoline tax is not sufficient.

## MA INTE VANCE

"The tyranny of rising maintenance costs"*, has become a very sizeable expenditure in Montana, anounting to $\$ 5,906,200$, for the fiscal year 1950 , the details of ich are shown in Sheet 4 of the Financial Forecast, Table No. 15.

* Commissioner MacDonald-aBureau of Public Roads.


## TABLE 14

FUTURE CONSTRUCTION FROGRAM, BASED ON CONGRESSIONAL APPROFRIATIONS FOR FEDERAL AID AS RROVIDED BY THE WHITTINGTON BILL IN THE 8lst CONGRESS SIOTIING STATE MONEY REQUIRED TO MATCH FEDERAL FUNDS.

|  | NONTANA <br> Federal <br> Aid | State <br> Funds |  | Federal |  | State |  | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | | \% of |
| :---: |
| Traffic |

Based on proposed Federal Appropriations, per year, 8lst Congress, 2nd Session.

TABLE NO． 15
Total inticipated Funds ivailable，including cash on hand，credits and anticipated Revenue：For Fiscal Year 1950 （July I， 1949 to June 30，1950）

Approximate unobligated balance as of
July l，1949，including funds from sale
of Debenture Bonds，other cash on hand
or due and payments due from Fublic Roads
Administration。
Anticipated Gross Revenue from $6 \varnothing$ Gas and Diesel Fuel Tax

Less Anticipated Statutory Refunds

$$
\$ 13,520,670
$$

3，560，670

Anticipated Ifet Revenue（Exh。＂A＂）
U．S．Oil Royalties
9，960，000
150，000
Anticipated 6 lionths revenue beginning
January 1，1950，from：
Use tax fron all trucks
Use tax from all trailer \＆seri－trailers
（Exh．＂B＂）
277，000
Use tax on all automobiles
$\because \quad 200,000$
Temporary License on out of State trucks， trailers and semi－trailers

10，000
Tax on new motor vehicles in lieu of property tax
157，000
Legislative appropriation－State ndvertising
50,000
Total snticipated Funds Available

$$
\$ 15,244,000
$$

Anticipated Probable Disbursements for Fiscal Year 1950 （July 1，1949 to June 30，1950）

For Retirement of $\$ 12,000,000$ outstanding Debenture Bonds
Adninistrative：
$\begin{array}{ll}\text { State Highway Cormission } & 9,000\end{array}$
State Highway Departrent（less Maintenance Supervision）
390，000
Fre－construction \＆Construction Engineering（Non Federal iid）
Right of Flay（Non Federal iid）
Engineering Equipment
State＇s share of Planning Survey costs
State fdvertising，under Legislative appropriation
Retirement Premiums（Public Rmpl。Retirenent Law）
400，000
140，000
25，000
60，000
50，000
125，000
Maintenance，including supervision \＆overhead
betterments，shop expense，stores accounts，equipment
buildings，Fort of Entry Station operation \＆sllied
minor miscellaneaous expense
（Exh．＂C＂）
5，906，200
Available for matchine Federal Aid for Ifighvay construction
6，716，800
Total anticipated Frobable Disbursements

Use Tax on trucks
Use Tax on trailers \& semi-trailers
Use Tax on automobiles
Temporary license on out of state trucks
Tax on new passenger motor vehicles in lieu of property tax

| $\$ 583,516$ | $X$ | .95 | X | .5 | $\$ 277,122.60$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 83,756 | $X$ | .95 | $X$ | .5 | $39,785.57$ |
| 421,692 | $X$ | .95 | $X$ | .5 | $200,202.70$ |
| 21,035 | $X$ | .95 | $X$ | .5 | $9,991.63$ |
|  |  |  |  |  |  |
|  |  |  |  | $156,854.50$ |  |
| $\$ 684,057.00$ |  |  |  |  |  |

Total
$\frac{156,854.50}{\$ 684,057.00}$

NOTE:
The following explanation is given with respect to the use of the factors shown above:
The factor of 095 is applied to the estimated gross receipts as shown in the more detailed breakdown, given below, inasmuch as $5 \%$ of the gross receipts is withheld by Law to defray the county expense in the collection of the Tax, leaving but $95 \%$ of the amounts collected as a net return for use by the State Highway Department.

The factor of .5 is applied to the estimated gross yearly receipts as shown in the more detailed breakdown given below, inasmuch as the act will be in effect for but six months of this fiscal year. (The fiscal year includes the 12 months from July 1, 1949 to June 30, 1950. The het will becone effective as of January 1, 1950.)

ESTIMATED YEARLY GROSS REVENUES UNDER THE ACT
Truck Revenue

Trucks 1 ton or under
Trucks over 1 ton \& up to \& including $1 \frac{1}{2}$ ton
Trucks over $1 \frac{1}{2}$ ton \& up to \& including 2 ton
Trucks over 2 ton \& less than 3 Ton
Turcks over 3 ton \& up to 5 ton
Turcks over 5 ton
Totals
Tstimated increase for 1950 at $11.405 \%$ TOTAL estirnated truck revenue for 1950

| 34,498 at $\$ 5.00$ | $\$ 177,490$ |
| ---: | ---: |
| 22,063 at 10.00 | 220,630 |
| 1,833 at 22.50 | 41,242 |
| 1,309 at 37.50 | 49,087 |
| 314 at 60.00 | 18,840 |
| 164 at 100.00 | 16,400 |
| 61,181 | $\$ 523,689$ |

Trailer Revenue
Trailers \& semi-trailer 1 ton \& under
Trailers semitrailers lon a includin 1,516 at 2.00
an 2 . 3,162 at 15.00
Trailers \& semi-trailers over 2 T \& less than $3 \mathrm{~T} \quad 315$ at 25.00
Trailers \& semi-trailers 3 ton \& less than 4 T
Trailers \& semi-trailers 4 ton up to 5 ton
Trailers \& semi-trailers over 5 ton capacity Totals
Estimated increase for 1950 at 11.405
TOTAL Estimated Revenue - Trailer Revenue

3,032
47,430
7,875
5,790
2,555
8,500
$\begin{array}{r}85,585 \\ \hline 83,575\end{array}$
i.OTE: Farm trailers having a license registration fee of $\$ 5.00$ each are placed in the 2 ton category, as they are of variable makes, and it is impossible to correctly place them in the proper rated capacities until more accurate records are available.

## Passenger Car Use Tax

| Passenger Cars Registered in 1948 |  | 145,402 |
| :---: | :---: | :---: |
| Estimated Increase for 1950 at $9 \%$ |  | 13,086 |
| Total Estimated Registration for 1950 Fiscal Year |  | 158,488 |
| Deduct 5\% exempted vehicles in cities |  | 7,924 |
| Total Estimated Vehicles to be Taxed |  | 150,564 |
| 130,564 Full Year License at | \$3.00 | \$391,692 |
| 20,000 Half Year License at | I. 50 | 30,000 |
| TOTAL Anticipated Revenue Passenger Car Use Tax |  | \$421,692 |

## Out of State Trucks

Out of State trucks, at $25 \%$ of regular fees as shown in Section 1 of the truck tax.

Trucks 1 ton or under
Trucks over 1 T \& up to \& includg $1 \frac{1}{2} T$
Trucks over $1 \frac{3}{2} T$ \& up to \& includg $2 T$
Trucks over 2 ton \& less than 3 ton
Turcks over 3 ton \& up to 5 ton
Turcks over 5 ton
Totals
$10 \%$ Estimated increase for 1950
Total out of state registrations

| 150 at $\$ 1.25$ | 187.50 |
| ---: | ---: |
| 150 at 2.50 | 562.50 |
| 225 at 5.62 | $1,264.50$ |
| 225 at 9.37 | $2,108.25$ |
| 375 at 15.00 | $5,625.00$ |
| $\frac{375}{1,500}$ at 25.00 | $\frac{9,375.00}{19,122.75}$ |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

New car tax in lieu of property tax

$$
\begin{aligned}
& \text { Aver. } \\
& \$ 330,220
\end{aligned}
$$

SUMMARY

| Estimated Truck Revenue | 583,416 |
| :--- | ---: |
| Estimated Trailer Revenue | 83,757 |
| Estimated Passenger Car Use Tax Revenue | 421,692 |
| Estimated Out of State registrations | 21,035 |
| Estimated New Car Tax Revenue | $\mathbf{3 3 0 , 2 2 0}$ |
|  | Total |
|  | $\$ 1,440,120$ |
| Less 5\% to County Treasurers |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## SHEET 4 of TABLE NO. 15

BUDGETED MAINTENAIVCE EXIENDITURES FISCAL YEAR - 1949-50
GENERAL MIIINTENANCE DIRECT CHARGES

1. All items except those following
\$3,000,000
2. Snow Removal

400,000
3. Sanding
4. Weighing (Load Limit Enforcement)

SUB-TOTAL, GGNTRAL MA INTENANCE DIRECT CHARGES
5. SPECIAL MAINTENANCE DIRECT CLLARGES
6. BETTERMENTS - DIRECT CHARGES

INDIRECT CTIARGES : OVERHEAD ITMMS
7. Annual Leave
8. Supervision
9. Industrial Accident Insurance
10. Adm. Expense - Helena Shop
11. Gasoline distribution
12. Insurance on Maintenance Buildings

13, Insurance on Maintenance Stores
14. Upkeep \& Repair of Maintenance Buildings
15. Upkeep \& Repair of Shop Equipment

SUB-TUTAL INDIRECT CILARGES
SUB-TOTAL ROAD IMAINTEINANCE ONLY
SORES ACCCUITS, INCREASE OR DECREASE
16. Crushed Gravel

192,000
65,000
40,000
30,000
42,000
1,000
17. District Stores
18. Equipment Stores
19. Helena Stores
20. Miscellaneous Stores

SUB-TOTAL STORES INCR. OR DECR. F. Y. 1949-50
32,000
$\begin{array}{r}7,000 \\ \hline 409,200\end{array}$
\%5,704,200
$\begin{array}{cr}110,000 \\ & \\ \text { (credit) } & \\ & 110,000 \\ & \\ & 80,000 \\ & 6,000 \\ & 90,000 \\ & 9,000 \\ & 155,000 \\ & 12,000 \\ & 5,000 \\ & 30,000 \\ & \$ 5,906,200\end{array}$
26. Port of Entry Stations
27. Miscellaneous Refunds Due
28. City \& County Non-Reimbur sable

TOTAL CASII OUTLAY AGAINST MAINTENANCE BUDGET

|  | $\begin{array}{r} \$ 3,000,000 \\ 400,000 \end{array}$ |
| :---: | :---: |
|  | 200,000 |
|  | 45,000 |
|  | \$3,645,000 |
|  | 400,000 |
|  | I,250,000 |
|  | 192,000 |
|  | 65,000 |
|  | 40,000 |
|  | 30,000 |
|  | 42,000 |
|  | 1,000 |
|  | 200 |
|  | 32,000 |
|  | 7,000 |
|  | 409,200 |
|  | \$5,704,200 |
|  | 110,000 |
|  | 110,000 |
| (credit) | 100,000 |
|  | 80,000 |
|  | 6,000 |
|  | 60,000 |
|  | 9,000 |
|  | 155,000 |
|  | 12,000 |
| (credit) | 5,000 |
|  | 30,000 |
|  | \$5,906,200 |



In highways，as in everything else，we must remember the old saying＂It is not only the first cost，but the upkeep．＂This old saying can apply to nothing more pertinently than to highways．The highway，or a system of highways is no better than its maintenance，and no highway administrator should embark on a highway con－ struction progran vithout first giving consideration to the maintenunce problen that will inexorably follow。

The Committee did not have time to make a thorough study of maintenance costs，but would suggest that careful consideration be given before any sizeable job is undertaken as maintenance．It may save the reople of Nont ana considerable money if the project is classified as reconstruction and entitled to Federal aid and subjected to competitive bidding．

You will note that Table No， 15 shows an estimated maintenance expenditure for the fiscal year 1950 of $\$ 5,906,200$ ，（ $55 \frac{1}{2}$ of our income）＊，which is an increase of approximately $767,515,00$ over the amount spent during the fiscal year of 1949。＊＊At this rate of increase per year maintenance will take all our highway income within three years even if we continue the revenue measures which expire December 31，1951．You will also note that the maintenance cost for the ten fiscal years 1940－1949 averages $\$ 540.95$ per mile，whereas，the maintenance for 1949 cost approximately 3,000 per mile．（See Table No．18）．Our maintenance cost has increased tremendously for three reasons．First，we have a nuch larger plent to maintain，second，there has been a tremenduous increase in the various costs，and third，greater traffic of heavier loads at higher speeds．

As an example，Table No． 19 shows that the average cost for maintenance employees wages for 1937 －1942 was 76 cents fer hour．In 1948 this had increase ed to 1.42 per hour．

## OVERLOADING

The great increase in the number，size and weight of trucks has had a detri－ mental effect on the life of our highways．Over sixty percent of our present Frimary System was built prior to 1940．These roads vere built to a standard that was considered adequate at that tine，however，under present loading prac－ rices they fail to hold up．The average loaded weight of all trucks during 1936 Was 8,322 pounds per vehicle。 By 1949 the average truck had increased to 19,875 pounds．The average we ight of all combinations has increased from 25,644 younds per vehicle in 1936 to 46,383 pounds in 1949．The average maximum axle load has increased from 4,860 pounds to 9,874 pounds during the same period．

Approximately seven percent of all vehicles weighed during the loadometer Survey of 1949 were violating the law pertaining to Load restrictions．Whereas one exle per 1,000 vehicles weighed in 1936 exceeded the 18,000 pound limitation， the 1949 Loadometer Survey showed that thirty－three axles per 1,000 vehicles weighed exceeded 18,000 pounds．Axle loads were as high as 26,000 pounds and truck weights were as high as 95,000 pounds．

Fie believe that high speeds and overloading of large vehicles contribute in a great measure to the break－up of our roads．Honest and conscientious

[^4]| Financial Disrict | FY-1940 | FY-1941 | FY-1942 | F'Y-1943 | FY-19 4 | FY-1945 | FY-1946 | FY-1947 | FY-1948 | FY-1949 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\begin{array}{r} 128,626.79 \\ 6.73 \% \\ \hline \end{array}$ | $\begin{array}{r} 150,211.32 \\ 7 \times 24 \% \end{array}$ | $\begin{array}{r} 165,452.97 \\ 7.98 \% \\ \hline \end{array}$ | $\begin{array}{r} 184,810.50 \\ 9.35 \% \\ \hline \end{array}$ | $\begin{array}{r} 192,928.93 \\ 8.68 \% \\ \hline \end{array}$ | $\begin{array}{r} 192,073.26 \\ 7.91 \% \\ \hline \end{array}$ | $\begin{array}{r} 278,365.07 \\ 9.91 \% \\ \hline \end{array}$ | $\begin{array}{r} 311,1+44.94 \\ 9.53 \% \\ \hline \end{array}$ | $\begin{array}{r} 4,6,405.18 \\ 10.33 \% \\ \hline \end{array}$ | $\begin{array}{r} 588,686.93 \\ 11,46 \% \\ \hline \end{array}$ | $\begin{array}{r} 2,639,005.89 \\ 9.39 \% \\ \hline \end{array}$ |
| 2 | $\begin{array}{r} 166.791 .16 \\ 8.73 \% \\ \hline \end{array}$ | $\begin{array}{r} 129,598.52 \\ 6.67 \% \\ \hline \end{array}$ | $\begin{array}{r} 147,230.57 \\ 7.10 \% \\ \hline \end{array}$ | $\begin{array}{r} 111,382.12 \\ 5.63 \% \\ \hline \end{array}$ | $\begin{array}{r} 140,143.82 \\ 6.30 \% \end{array}$ | $\begin{array}{r} 155,909.65 \\ 6.42 \% \\ \hline \end{array}$ | $\begin{array}{r} 179,187.02 \\ 6.38 \% \\ \hline \end{array}$ | $\begin{array}{r} 233,522.32 \\ 7.16 \% \\ \hline \end{array}$ | $\begin{array}{r} 274.973 .59 \\ 6.36 \% \\ \hline \end{array}$ | $\begin{array}{r} 381,263.29 \\ 7.42 \% \\ \hline \end{array}$ | $\begin{array}{r} 1,920,002.06 \\ 6.83 \% \end{array}$ |
| 3 | $\begin{array}{r} 138,221.58 \\ 7.23 \% \\ \hline \end{array}$ | $\begin{array}{r} 151,057.79 \\ 7.78 \% \\ \hline \end{array}$ | $\begin{array}{r} 146,755.23 \\ 7.07 \% \end{array}$ | $\begin{array}{r} 131,040.111 \\ 6.63 \% \end{array}$ | $\begin{array}{r} 162,594.05 \\ 7.32 \% \end{array}$ | $\begin{array}{r} 160,522.69 \\ 6.61 \% \end{array}$ | $\begin{array}{r} 209,302.84 \\ 7.45 \% \end{array}$ | $\begin{array}{r} 226,281.69 \\ 6.92 \% \end{array}$ | $\begin{array}{r} 295,585.66 \\ 6.84 \% \end{array}$ | $\begin{array}{r} 301,974.06 \\ 5,88 \% \end{array}$ | $\begin{array}{r} 1,923,335,70 \\ 6.85 \% \end{array}$ |
| 4 | $\begin{array}{r} 81,450.45 \\ 4.26 \% \\ \hline \end{array}$ | $\begin{array}{r} 97,135.86 \\ 5.00 \% \\ \hline \end{array}$ | $\begin{array}{r} 90,261.09 \\ 4.35 \% \\ \hline \end{array}$ | $\begin{array}{r} 112,615.68 \\ 5.70 \% \\ \hline \end{array}$ | $\begin{array}{r} 125,076.86 \\ 5.63 \% \end{array}$ | $\begin{array}{r} 121,533.13 \\ 5.00 \% \end{array}$ | $\begin{array}{r} 196,465.15 \\ 6.99 \% \end{array}$ | $\begin{array}{r} 169,445.00 \\ 5.18 \% \end{array}$ | $\begin{array}{r} 273,094.52 \\ 6.32 \% \end{array}$ | $\begin{array}{r} 315,882.38 \\ 6.15 \% \end{array}$ | $\begin{array}{r} 1,582,960.12 \\ 5.63 \% \end{array}$ |
| 5 | $\begin{array}{r} 104,069.43 \\ 5.44 \% \\ \hline \end{array}$ | $\begin{array}{r} 83,515.09 \\ 4.30 \% \\ \hline \end{array}$ | $\begin{array}{r} 75,411,36 \\ 3.61 \% \\ \hline \end{array}$ | $\begin{array}{r} 55,276.31 \\ 2.80 \% \\ \hline \end{array}$ | $\begin{array}{r} 82,134.61 \\ 3.70 \% \\ \hline \end{array}$ | $\begin{array}{r} 112,669.01 \\ 4.64 \% \end{array}$ | $\begin{array}{r} 87,068,65 \\ 3.10 \% \end{array}$ | $\begin{array}{r} 122,053.45 \\ 3.73 \% \end{array}$ | $\begin{array}{r} 231,123.23 \\ 5.35 \% \end{array}$ | $\begin{array}{r} 201,349.64 \\ 3.92 \% \end{array}$ | $\begin{array}{r} 1.154,670,78 \\ 4.12 \% \\ \hline \end{array}$ |
| 6 | $\begin{array}{r} 164,626.85 \\ 8.62 \% \\ \hline \end{array}$ | $\begin{array}{r} 225,884.77 \\ 11,63 \% \end{array}$ | $\begin{array}{r} 185,849.87 \\ 8.96 \% \end{array}$ | $\begin{array}{r} 200_{5} 418.29 \\ 10.14 \% \end{array}$ | $\begin{array}{r} 255,560.49 \\ 11.50 \% \end{array}$ | $\begin{array}{r} 227,098.31 \\ 9.35 \% \\ \hline \end{array}$ | $\begin{array}{r} 217,686.23 \\ 7.75 \% \end{array}$ | $\begin{array}{r} 332,491,04 \\ 10.17 \% \end{array}$ | $\begin{array}{r} 373,594.17 \\ 8.65 \% \end{array}$ | $\begin{array}{r} 581,289,15 \\ 11,30 \% \end{array}$ | $\begin{array}{r} 2,764,499.17 \\ 9.84 \% \\ \hline \end{array}$ |
| 7 | $\begin{array}{r} 142.346 .81 \\ 7.45 \% \\ \hline \end{array}$ | $\begin{array}{r} 171,588.20 \\ 8.84 \% \end{array}$ | $\begin{array}{r} 174,111.93 \\ 8.39 \% \end{array}$ | $\begin{array}{r} 212,914.23 \\ 10.76 \% \end{array}$ | $\begin{array}{r} 188,178.47 \\ 8.47 \% \end{array}$ | $\begin{array}{r} 189.858 .78 \\ 7.82 \% \end{array}$ | $\begin{array}{r} 279,077.88 \\ 9.93 \% \end{array}$ | $\begin{array}{r} 279,888,80 \\ 8.56 \% \end{array}$ | $\begin{array}{r} 339,829.60 \\ 7.86 \% \end{array}$ | $\begin{array}{r} 384.947 .78 \\ 7.49 \% \end{array}$ | $2,362,742,42$ |
| 8 | $\begin{array}{r} 270,958.49 \\ 14.18 \% \\ \hline \end{array}$ | $\begin{array}{r} 257,072.46 \\ 13.24 \% \end{array}$ | $\begin{array}{r} 274,251.56 \\ 13.22 \% \end{array}$ | $\begin{array}{r} 323.958 .35 \\ 16.37 \% \\ \hline \end{array}$ | $\begin{array}{r} 328,892.60 \\ 14.80 \% \end{array}$ | $\begin{array}{r} 362,667.89 \\ 14.94 \% \end{array}$ | $\begin{array}{r} 378,081,36 \\ 13.45 \% \end{array}$ | $\begin{array}{r} 452,142.29 \\ 13.84 \% \end{array}$ | $\begin{array}{r} 634,039.54 \\ 14.67 \% \end{array}$ | $\begin{array}{r} 730,057.02 \\ 14,20 \% \end{array}$ | $\begin{array}{r} 4,012,121.56 \\ 1_{1} .28 \% \end{array}$ |
| 9 | $\begin{array}{r} 132,469.98 \\ 6.93 \% \\ \hline \end{array}$ | $\begin{array}{r} 137,006.39 \\ 7.06 \% \\ \hline \end{array}$ | $\begin{array}{r} 175,968.88 \\ 8.48 \% \end{array}$ | $\begin{array}{r} 119.544 .84 \\ 6.05 \% \end{array}$ | $\begin{array}{r} 126,957.51 \\ 5.70 \% \end{array}$ | $\begin{array}{r} 174,506.52 \\ 7.19 \% \end{array}$ | $\begin{array}{r} 171,802.95 \\ 6.11 \% \end{array}$ | $\begin{array}{r} 216,130,50 \\ 6.62 \% \end{array}$ | $\begin{array}{r} 215,001.78 \\ 4.98 \% \end{array}$ | $\begin{array}{r} 312,753.35 \\ 6.09 \% \end{array}$ | $\begin{array}{r} 1,782,142,70 \\ 6.71 \% \\ \hline \end{array}$ |
| 10 | $\begin{array}{r} 201,470.61 \\ 10.54 \% \\ \hline \end{array}$ | $\begin{array}{r} 175,150.71 \\ 9.9 \% \\ \hline \end{array}$ | $\begin{array}{r} 203,583.41 \\ 9.82 \% \\ \hline \end{array}$ | $\begin{array}{r} 161250.03 \\ 8.15 \% \end{array}$ | $\begin{array}{r} 197,336.38 \\ 8.88 \% \end{array}$ | $\begin{array}{r} 190,836.78 \\ 7.86 \% \end{array}$ | $\begin{array}{r} 245,224.38 \\ 8.73 \% \end{array}$ | $\begin{array}{r} 277,567.65 \\ 8,49 \% \end{array}$ | $\begin{array}{r} 446,583.92 \\ 10.33 \% \end{array}$ | $\begin{array}{r} 533,019.05 \\ 10.37 \% \end{array}$ | $\begin{array}{r} 2,632,022.92 \\ 9.37 \% \end{array}$ |
| 11. | $\begin{array}{r} 225,812.72 \\ 11.82 \% \\ \hline \end{array}$ | $\begin{array}{r} 225,009.75 \\ 11,59 \% \\ \hline \end{array}$ | $\begin{array}{r} 257,820.53 \\ 12.43 \% \\ \hline \end{array}$ | $\begin{array}{r} 237,673.07 \\ 12.02 \% \\ \hline \end{array}$ | $\begin{array}{r} 251,723.99 \\ 11.33 \% \\ \hline \end{array}$ | $\begin{array}{r} 287,300.81 \\ 11.83 \% \end{array}$ | $\begin{array}{r} 340,429.66 \\ 12.11 \% \\ \hline \end{array}$ | $\begin{array}{r} 403,612.76 \\ 12.35 \% \end{array}$ | $\begin{array}{r} 465,638.76 \\ 10.78 \% \\ \hline \end{array}$ | $\begin{array}{r} 436,593.19 \\ 8.50 \% \\ \hline \end{array}$ | $\begin{array}{r} 3,131,615,24 \\ 11,15 \% \\ \hline \end{array}$ |
| 12 | $\begin{array}{r} 154,715.98 \\ 8.07 \% \\ \hline \end{array}$ | $\begin{array}{r} 138,378.23 \\ 7.13 \% \\ \hline \end{array}$ | $\begin{array}{r} 177,643.58 \\ 8.56 \% \end{array}$ | $\begin{array}{r} 126,546.29 \\ 6.40 \% \end{array}$ | $\begin{array}{r} 170,987.63 \\ 7.69 \% \end{array}$ | $\begin{array}{r} 253,309.47 \\ 10.43 \% \end{array}$ | $\begin{array}{r} 227,470.11 \\ 8.09 \% \end{array}$ | $\begin{array}{r} 243.489 .42 \\ 7.45 \% \end{array}$ | $\begin{array}{r} 325,548.32 \\ 7.53 \% \end{array}$ | $\begin{array}{r} 370,869.86 \\ 7.22 \% \end{array}$ | $\begin{array}{r} 2.188,358,89 \\ 7.79 \% \end{array}$ |
| TOTAL | $\begin{array}{r} 1,910,960.85 \\ 6.80 \% \\ \hline \end{array}$ | $\begin{array}{r} 1,941,609.09 \\ 6.91 \% \\ \hline \end{array}$ | $\begin{array}{r} 2.074,340.98 \\ 7.38 \% \\ \hline \end{array}$ | $\begin{array}{r} 1.977,429.82 \\ 7.04 \% \\ \hline \end{array}$ | $2,222,515.28$ | $\begin{array}{r} 2,428,286,30 \\ 8.64 \% \end{array}$ | $\begin{array}{r} 2,810,161,30 \\ 10,00 \% \end{array}$ | $\begin{array}{\|r\|} 3,268,069.86 \\ 11.63 \% \\ \hline \end{array}$ | $\|4,321,418,27\|$ | $\begin{array}{r} 5.138,685.70 \\ 18,29 \% \end{array}$ | $\begin{array}{r} 28,093,477.45 \\ 100,00 \% \end{array}$ |

[^5]CONIARISON OF ANNUAL MA INTENANCE EXPENDITURES ON PRIMARY SYSTEM
TABLE NO. 18 Annual Expenditures and Percentage by Routes
(Includes Direct Ixpenditures Only - Does Not Include Overhead)

| No. | Amount | \% | Amount | \% | Amount | \% | Amount | \% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 290,955.50 | 15.23 | 247,253.11 | $1 \overline{1.73}$ | 242,003.12 | 11.66 | 239,810.06 | $\overline{12.14}$ |
| 2 | 451,567.54 | 23.64 | 428,427.31 | 22.06 | $496,321.23$ | 23.92 | 390,817.52 | 19.77 |
| 3 | 196,233.72 | 10.28 | 189,299.06 | 9.75 | 250,897.68 | 12.10 | 242,331.63 | 12.26 |
| 4 | 36,765.56 | 1.92 | 28,297.97 | 1.46 | 23,836.59 | 1.15 | 24,047,00 | 1.22 |
| 5 | 107,131.62 | 5.62 | 103,000.09 | 5.30 | 118,210.75 | 5.70 | 111,952.98 | 5.66 |
| 6 | 37,252.23 | 1.95 | 46,628.13 | 2.40 | 43,363.03 | 2.09 | 58,939.51 | 2.98 |
| 7 | 18,870.32 | . 99 | 18,622.78 | . 96 | 18,999.48 | . 92 | 36,768.43 | 1.86 |
| 8 | 39,788.86 | 2.08 | 67,943.42 | 3.50 | 46,079.76 | 2.22 | 69,848.18 | 3.53 |
| 9 | 11,872.59 | . 62 | 24,472.48 | 1.26 | 9,362,24 | . 45 | 9,508.50 | . 48 |
| 10 | 35,010.93 | 1.83 | 80,983,98 | 4.17 | 68,599.58 | 3.31 | $55,910.34$ | 2.83 |
| 11 | 68,648.23 | 3.59 | 68,884.55 | 3.55 | 85,201.07 | 4.11 | 67,536.64 | 3.41 |
| 12 | 1,928.32 | . 10 | 7.478.39 | . 39 | 2,195,51 | . 11 | 3,634.91 | . 18 |
| 13 | 19,160.93 | 1.00 | 16,793.34 | . 86 | 21,804,63 | 1.05 | $16,737.87$ | . 85 |
| 14 | 42,678.43 | 2.23 | 44,203.34 | 2.28 | 79,134.57 | 3.81 | 48,647.83 | 2.46 |
| 15 | 113,207.20 | 5.92 | 112,986.55 | 5.82 | 86,577.78 | 4.17 | 85,614.08 | 4.32 |
| 16 | 72,450.37 | 3.79 | 80,663.26 | 4.15 | $84,897.89$ | 4.09 | 113,545.51 | 5.74 |
| 17 | 29,765.54 | 1.56 | 56,385,85 | 2.90 | $51,643.26$ | 2.49 | $44,219.76$ | 2.24 |
| 18 | 17,102.01 | .89 | 15,666.19 | . 81 | 15,098.58 | . 73 | 14,236.89 | . 72 |
| 19 | 36,933.27 | 1.93 | 43,923.66 | 2.21 | 24,299.26 | 1.17 | $28,410.84$ | I. 44 |
| 20 | 18,065.70 | . 95 | 17,396.22 | . 90 | 20,512.18 | . 99 | 24,313.26 | 1.23 |
| 21 | 29,679.74 | 1.55 | 23,249.01 | 1.20 | 49,575.63 | 2.39 | 39,056.54 | 1.98 |
| 22 | 23,961.20 | 1.25 | 26,136.95 | 1.35 | 27,720.80 | 1.34 | 30,496.41 | 1.54 |
| 23 | 30,538.93 | 1.60 | 28,093.64 | 1.45 | 34.603 .32 | 1.67 | 28,989.69 | 1.47 |
| 24 | 22,608.39 | 1.18 | 20,274.01 | 1.04 | 14,214.11 | .69 | 13,560.37 | . 69 |
| 25 | 8,765.93 | . 46 | 8,205.88 | . 42 | 15,363.76 | . 74 | 10,345.25 | . 52 |
| 26 | 4,186.52 | - 22 | 993.42 | .05 | 1,008.69 | .05 | 1.154.21 | . 06 |
| 27 | 12,033.87 | . 63 | 6,215.32 | . 32 | 8,521.90 | . 41 | 14,043.72 | . 71 |
| 28 | 8,537.03 | . 45 | 7,752,30 | . 40 | 11,985.99 | . 58 | 24,039.46 | 1.22 |
| 29 | 8,923.10 | . 47 | 22,463.63 | 1.16 | 9,074.83 | . 44 | 9,531.83 | . 48 |
| 30 | 3,234.01 | . 17 | 3,945.87 | - 20 | 3,774.07 | . 18 | 4,301.74 | . 22 |
| 31 | 1,780.63 | .09 | 2,386.00 | . 12 | 2,281.56 | . 11 | 2,496.71 | . 13 |
| 32 | 9,712.55 | . 51 | 11,370.02 | . 59 | 11,562.90 | . 56 | 8,801.20 | .45 |
| 33 | 8,017.62 | . 42 | 11.071 .58 | . 57 | 15,011.89 | . 72 | 12.772 .50 | . 64 |
| 35 | 4,459.91 | . 23 | 4,760.83 | . 25 | $6,682.95$ | . 32 | 6,046.94 | . 31 |
| 36 | $6,147.04$ | . 32 | 6,365.78 | . 33 | 9,219.51 | -44 | 15,038.04 | . 76 |
| 37 | $6,558.08$ | . 34 | $6,327.33$ | . 33 | 6,268.10 | . 30 | 5,704,81 | . 29 |
| 38 | 780.99 | .04 | 1,366.82 | .07 | 1,788.07 | .09 | $2,096.20$ | . 11 |
| 39 |  |  |  |  |  |  |  |  |
| 40 | 740.58 | . 04 | 1,305.99 | .07 | 1,380.47 | .07 | 2,188.32 | . 11 |
| 41 | 2,005.23 | . 10 | 3,486.12 | -18 | 2,782.21 | . 13 | $1,187.58$ | . 06 |
| 42 | 5,273.15 | .28 | 2,775.10 | -14 | 3,558.78 | . 17 | 3,023.35 | . 15 |
| 43 | 14,836.59 | .77 | 11,732.43 | .60 | 12,075.93 | . 58 | 7,021.86 | . 35 |
| 44 | 1,410.04 | .07 | 1,542,63 | . 08 | 1,638.61 | . 08 | 4,852.36 | . 25 |
| 45 | $9,869.76$ | . 52 | 1,717.25 | . 09 | 4,367,56 | . 21 | 2,774.17 | . 14 |
| 46 | 4,758.55 | . 25 | 2,929.26 | . 15 | 5,774.84 | -28 | $6,145.14$ | . 31 |
| 47 | 2,367.28 | -12 | I,229.28 | . 06 | 2,123.14 | -10 | $6,016.97$ | .30 |
| 48 | 531.66 | . 03 | 444.33 | .02 | 375.05 | .02 | 957.34 | . 05 |
| 49 |  |  |  |  | 390.90 | . 02 | 908.40 | . 05 |
| 50 | 33,853,60 | 1.77 | 25, 158,63 | 1.30 | 22,127,22 | 1.07 | 26,365.97 | 1.33 |

TOTAL 1,910,960.85 100.00 1,941,609.09 100.0 $2,074,340.98 \quad 100.0 \quad 1,977,429.82 \quad 100.00$

Sheet 2 TABLE NO． 18

COMPARISON OF ANNUAL MA INTENANCE EXFENDITURES ON PRIMARY SYSTERM
Annual Expenditures and Percentage by Routes
（Includes Direct Expenditures Only－Does Not Include Overhead）

| No． | $\frac{\text { Fiscal }}{\text { Amount }}$ |  | Amount |  | scal Ye | \％ | $\frac{\text { Fiscal }}{\text { Anount }}$ | $\frac{1947}{\%}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 293，505．46 | 13.22 | 292，892．00 | 12.07 | 344，213．31 | 12．25 | 402，199．33 | 12.30 |
| 2 | 426，924．01 | 19．22 | 461，190．88 | 18．99 | 491，858，92 | 17.50 | 621，656．94 | 19.01 |
| 3 | 224，834．94． | 10.12 | 225，392．86 | 9.28 | 331，584．46 | 11.80 | 297，925．03 | 9.12 |
| 4 | 23，454．87 | 1.06 | 43，261．55 | 1.78 | 46，742，25 | 1.66 | 20，644．39 | ． 63 |
| 5 | 89，663．10 | 4.03 | 124，865．56 | 5.14 | 135，931．59 | 4．84 | 151．277．94 | 4.63 |
| 6 | 67．474．20 | 3.04 | 72，270．09 | 2.98 | 63.358 .57 | 2.22 | 106，908．37 | 3.27 |
| 7 | 32，187．63 | 1.45 | 43，034．13 | 1.77 | 41，486．44 | 1.48 | $43,582,12$ | 1.33 |
| 8 | 51，611．73 | 2.32 | 60，506．76 | 2.49 | $73,378.37$ | 2.61 | 85，799．63 | 2.63 |
| 9 | 14，111．24 | ． 63 | 12，915．23 | ． 53 | 17，041．03 | ． 61 | 19.085 .40 | ． 58 |
| 10 | 69，891．14 | 3.14 | 38，691．06 | 1.59 | 48，252．17 | 1.72 | 79，911．70 | 2.45 |
| 11 | 73，299．85 | 3.30 | 92，850．59 | 3.82 | 100，624．89 | 3.58 | 120，475．71 | 3.69 |
| 12 | 2，684。11 | 12 | 3，026．08 | 12 | 4，467．48 | 16 | 7，209．15 | 22 |
| 13 | 21，956．25 | ． 99 | 62，046．24 | 2.56 | 40，928．90 | 1.46 | $59,143.88$ | I． 81 |
| 14 | 86，833．94 | 3.91 | 53，364．00 | 2.20 | $84,735.08$ | 3.02 | 60，139，43 | 1.84 |
| 15 | 127．764．74 | 5.74 | 126，884．61 | 5.23 | 154，042，31 | 5.48 | 221，580．99 | 6.78 |
| 16 | 111，504．70 | 5.00 | 138，590，94 | 5.71 | 114，467．28 | 4.07 | 136，874．66 | 4.19 |
| 17 | 40，270，90 | 1.81 | 38，379．77 | 1.58 | 51，792．15 | 1.84 | 57， 892.15 | 1.77 |
| 18 | 26，964．82 | 1.21 | 35，829．21 | 1.48 | 40，454．90 | 1.44 | 28，976．13 | ． 89 |
| 19 | 26，737．57 | 1.20 | 33，815，22 | 1.39 | 50，974．71 | 1.81 | 67，153．89 | 2.05 |
| 20 | 18，812．07 | ． 85 | 23，981．45 | －99 | 55，437．45 | 1.97 | 23，739．09 | ． 73 |
| 21 | 53，479．17 | 2.41 | 63.435 .33 | 2.61 | 54，007．01 | 1.92 | 77，883．26 | 2.38 |
| 22 | 36，498．45 | 1.64 | 34，961．14 | 1.44 | 80，639．90 | 2.87 | 72，581．03 | 2.22 |
| 23 | 44，561。34 | 2.00 | 70，524．92 | 2.90 | 79，042．86 | 2.81 | 52，608．36 | 1.61 |
| 24 | 37，030．57 | 1.67 | 27，582．31 | 1.14 | 21；982．45 | ． 78 | 26，328．66 | ． 81 |
| 25 | 11，104．13 | ． 50 | 15，755．24 | ． 65 | 12，209．64 | ． 43 | 12，009．37 | .37 |
| 26 | 1，422．25 | ． 06 | 1，548，62 | ． 06 | $5,288.82$ | ． 19 | 2，185，46 | ． 07 |
| 27 | 20，885，37 | ． 94 | 19，198．84 | ．79 | 12，527．91 | ． 45 | $23,301.42$ | ． 71 |
| 28 | 12，007．10 | ． 54 | 10，4．97．00 | ． 43 | 12，890．75 | ． 46 | 33，484．48 | 1.02 |
| 29 | 9，931，67 | ． 45 | 11，328．59 | ． 47 | 13，106．44 | ． 47 | 14，121．17 | .43 |
| 30 | 4，235．91 | ． 19 | 4，291．97 | ． 18 | 5，662．16 | ． 20 | 5，767．39 | ． 18 |
| 31 | 3，562．46 | ． 16 | 2，217．72 | ． 09 | 3，954．73 | ． 14 | 5，141．41 | .16 |
| 32 | 13，700．90 | ． 62 | 23，757．48 | ． 98 | 33，926．91 | 1.21 | 26．903．09 | ． 82 |
| 33 | 14，898．89 | .67 | 15，176．16 | ． 62 | 15，405．33 | ． 55 | 21，594．71． | ． 66 |
| 35 | 6，308．29 | ． 28 | 6，479．26 | ． 27 | 11.155 .43 | ． 40 | 15，395．14 | ． 47 |
| 36 | 31，149。88 | 1.40 | 18，610，62 | ． 77 | 24，314．49 | ． 87 | 65，247．23 | 2.00 |
| 37 | 22，974．88 | 1.03 | 24，131．59 | －99 | 22，042，81 | ． 78 | $67,510.21$ | 2.07 |
| 38 | 2，318．06 | ． 10 | 5，160．07 | ． 21 | 6．752．98 | ． 24 | $4,013.51$ | ． 12 |
| 39 |  |  |  |  |  |  |  |  |
| 40 | 1，605．41 | .07 | 1，196．94 | ． 05 | 1，068．32 | ． 04 | 1，581．81 | ． 05 |
| 41 | 4，390，86 | ． 20 | 3，163．55 | ． 13 | 3，223．36 | ． 11 | 3，022．70 | ． 09 |
| 42 | 5，363，83 | ． 24 | 4．997．98 | ． 21 | 21，600，61 | ． 77 | 4，496．46 | ． 14 |
| 43 | 12，304．35 | ． 55 | 34，207．98 | 1.41 | 13，207．56 | .47 | 18，231．77 | ． 56 |
| 44 | 2，137．43 | ． 10 | 2，760．58 | ． 11 | 3，126．57 | ． 11 | 24，871．83 | ． 76 |
| 45 | 2，380．28 | ． 11 | 4，315．21 | － 18 | $16,810,46$ | ． 60 | 16，815，41 | ． 51 |
| 46 | 6，207．23 | ． 28 | 9，118．88 | ：38 | 7，834．18 | ． 28 | 9，049．84 | ． 28 |
| 47 | 4，566，96 | ． 21 | 4，000．07 | ． 16 | 1，785．75 | ． 06 | 2，791．23 | ． 09 |
| 48 | 1，863，05 | ． 08 | 1，820．47 | ． 07 | 517.65 | ． 02 | 847.48 | ． 03 |
| 49 | 1，047，93 | ． 05 | 966．86 | ． 04 | 1，298．16 | ． 05 | 1，123．14 | ． 03 |
| 50 | 24，181．37 | 1.09 | 23，302，69 | ． 96 | 33，905．73 | 1.20 | 46，986，36 | ． 4 |

[^6](Includes Direct Espenditures Only - Does iNot Include Cverhead)


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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 008 ${ }^{\bullet}$ T | 00\＆て＂T | $0520{ }^{\circ} \mathrm{T}$ | $0526{ }^{\circ}$ | $05188^{\circ}$ | SL8L． | 992 ${ }^{\circ}$ | a |  |
| $0092^{\circ} \mathrm{T}$ | 00 ［ ${ }^{\bullet}$ ¢ | $0526^{\circ}$ | OS28＊ | 098L． | $62.69^{\circ}$ | 2709＊ | 11 | ләлочет |
| $00 \pm \varepsilon^{\circ} \mathrm{T}$ | OZLI＇T | $0516{ }^{\circ}$ | $05188^{\circ}$ | OLI8＊ | $008 L^{\circ}$ | と¢EL． | 4 | doqet pettuys－tuos |
| $00 L \varepsilon^{\circ} \tau$ | 8LEて’T | ${ }^{05} 50{ }^{\circ} \mathrm{T}$ | $0^{0}$ t6 ${ }^{\circ}$ | OSL8＊ | $9108^{\circ}$ | 9¢らL． | ＂ | sxozexəd0 pərtu̧s－ṭuas |
| 00\＆S ${ }^{\text {T }}$ | $008 \varepsilon^{\circ} \mathrm{T}$ | $005 L^{\circ} \mathrm{T}$ | $0050^{\circ} \mathrm{I}$ | 0056＊ | 6\＆28＊ | 6251. | $\cdots \quad$ a |  |
| $07789^{\circ} \mathrm{I}$ | $0725^{\circ} \mathrm{I}$ | OSLて＇T | L991 ${ }^{\circ} \mathrm{T}$ | टટटा ${ }^{\circ} \mathrm{T}$ | \＆TEO＂T | S896＊＊ | $\kappa_{\text {T } \text { InOH }^{-1}}{ }^{-1}$ | sәрел屯 рәтtب̧S |
| Sで662\＄ | Sで692\＄ |  | $8 \varepsilon^{\circ} 702$ | $00^{\circ} 06 \pm$ ¢ |  | SLE＂TMT | Кโч7ニоW＂əл才 |  |
| 8762 | $L 76 T$ | 9762 |  |  | 2176 | 己†－LE6T |  | Uot7eotfusseto |
| 876T of LE6T uostrxeduoo <br>  <br> NOISSIWUOO XVMHYIH GLVLS WNHLNON <br> $6 \tau$ © ON ？ $\operatorname{HIGv}$ |  |  |  |  |  |  |  |  |

administration of our weight and speed laws would help materially to save our roads，many of which were built 20 years ago and they are not strong enough for today＇s loads，nor do we have the necessary funds to rebuild these roads immedi－ ately，so we must protect what we have。

Cur present laws have effective peeth and we recommend that our laws be enforced as directed by the legislature，especially Section 32－1126 which re－ quires unloading of excessive weights．Other states have laws which give offi－ cials the authority to require unloading excessive weights and this seems to be the only real effective penalty．For example：Illinois officials were unable to stop this practice until an unloading law was enacted at the request of Governor Stevenson．

Table No． 20 shows that weight carried by all large trucks and truck－trailer combinations has increased over $135 \%$ in 13 years and the frequency of heavy loads has increased tremendously，fron practically nothing to a substantial percentage of our traffic．

Table No． 21 shows that trucks require a very minimum of $24 \%$ more surface thickness than passenger cors，and Table No， 22 gives similar information in greater detail and would be applicable to Montana．

Statements of Officials and Resolutions of Organizations with Respect to Overloading
Commissioner of Fublic Roads and the Bureau of Public Roads：
The U．S．Commissioner of Public Roads has spoken repeatedly of the damage wrought by overloaded vehicles on the heavily－traveled routes of the primary and interstate highway systems．In October，1949，he said：
＂There is no denial of the accomplishments under difficulties of the local highway officials，urban and rural，but the problem of keeping the highways in service under the rapidly growing num－ ber and the over－weight concentration of motor vehicles has been most acute on the State and interstate routes． The structural deterioration is being hastened and in addition an ever increasing mileage is rapidly becoming deficient in width，sight distance，strength and other features because of the enormous increase in volume and weight of traffic。＂

American Association of State Highway Officials：
At the 1949 meeting the Association passed the following resolutions in re－ pect to highway vehicle sizes and weights：

WHEREAS，the Committee on Maintenance and Equipment of the Americal Association of State Highway Officials has approved and adopted the report of its subcomittee on the destructive effects of overloading highway vehicles；and WHEREAS，notwithstanding the very liberal maximum standards formulated and promulgated by this Association relative to highway vehicle sizes and weights，particularly to the re－ commended maximum single axle load of $18,000 \mathrm{lbs}$ 。great damage to our highways has resulted from the failure of some highway users to respect and comply with these well considered

TABLE NO. 20
From Loadometer Surveys

| Type of Vehicle | $\begin{array}{cccc}\text { Average Loaded Weight in tons } \\ 1936 & 1949 & \begin{array}{c}\text { Percent of Total Traffic } \\ 1936\end{array} & 1949\end{array}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Single Unit Truck | 3.0 | 5.5 | 18.19 | 16.11 |
| Truck and Semi-Trailer | 10.6 | 20.1 | 0.17 | 2.08 |
| Truck and Full Trailer | 16.5 | 29.0 | 0.10 | 1.37 |
| ALL TRUCKS | 4.2 | 9.9 | 18.46 | 19.56 |



PERCFINT OF TOTAL TRAFFIC
510
15
20
Single
Unit Trucks
Truck and
Semi-Trailers

Full Trailers and $\left\{\begin{array}{l}\text { fra } \\ \text { Fule }\end{array}\right.$


 TRAFFIC

State Highway Commission
45 20\% MORE Width 25\% MORE Depth SHOULDER C BASE $33 \%$ MORE Width 100\% MORE Depth )
 <br> \title{
CHART <br> \title{
CHART <br> <br> SHOWING <br> <br> SHOWING TRUCKS OILED SURFACE <br> <br> AUTOS <br> <br> AUTOS ighways
} ighways
}

Prepared by Department of Public Works Boise Idaho. E.W.Sinclair, Comm. James Reid, Director.
$35 \%$ MORE Grading ed Drainage Width
 (9 her hue vif mioyntua $\sin +2 x+20$


standards; and WHEREAS, this ruinous practice of overloading our roads is destroying our primary highways faster than we can rebuild or replace them... RESOLVED, by the Anerican Association of State Highvay Officials in annual convention assembled in San Antonio, Texas, on October 13, 1949, that each member State or regional group of States be advised and urged to initiate a vigorous, fearless, and sustained proo gram of law enforcement, including special springtime restrictions, and that every effort be put forth to secure the legal adoption of the $A_{0} A_{0} S_{0} H_{0} O_{0}$ standards.

## The National Grange

The master's address at the 1949 meeting of the National Grange expressed concern about the misuse of secondary roads:
${ }^{n * * *}$ As we have improved our main arterial highways, weight limits and speeds have increased. When heavy trucks leave the well improved highways and travel on secondary highways which are not designed to carry such loads, they frequently do tremendous damage. Unless we are to build our secondary highways practically up to the specifications of our main highways, it seerns inevitable that we must come to a system of classifying traffic and placing special load limits on our secondary roads. It is recognized that the task of policing any such policy would be tremendous, but the rate at which many of our secondary roads are being torn up by overweight trucks demands a tax effort far greater than the task of adequate policing.

It is also recognized that sone of our farm traffic is tremendously heavy。 Classification would result in some inconveniences for the rural areas, and probably higher freight rates for truck haulage, but we seem to be faced with an irpossible alternative of greatly increased road expenditures to meet the growing tendency to haul heavier and heavier loads or limiting the loads...

There is a great deal of load linit violation on all our highways, and it is probable that 75 per cent of the breakdown is caused by less than 10 per cent of the traffic that ignores load limitations. It is high time that adequate enforcement methods be devised and employed for protecting the highways into which we are annually pouring hundreds of millions of dollars."

We must not discourage transportation in any form but we must remember that highways are built with public funds and they are to be protected for the public, and special facilities for the benefit of private organization should be paid for by the beneficiaries.

We therefore recormend that;
l. No increases should be permitted in present size and weight restrictions pending completion of scientific investigations being made by various state highway departments in cooperation with the United States Bureau of Fublic Roads. Montana's present laws are among the most liberal. See Table 23.

STATE SIZE AND WEIGHT RESTRICTIONS
TABLE NO， 23
June 1， 1950

| STATE | LENGTH |  |  |  | Maximum Axle Load in pounds | Maximum＊Gross Weight in Pounds |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HE IGHT | Single Tractor Combin Unit Semi－Trai。ation |  |  |  | Tractor Semitrailer |  |  |
|  |  |  |  |  | Single Ax | Tandem | tion |
| Ala。 | $12^{9} 6^{\text {mo }}$ | 35 | 45 | Nopo |  | 18，000S | 45，000 | 56，000 | No． |
| Ariz。 | $13^{\circ} 6^{\prime \prime}$ | 40 | 65 | 65 | 18，000 | 45，000 | 68，000 ${ }^{1}$ | 78，800 |
| Ark。 | $12^{\circ} 6^{\prime \prime}$ | 35 | 50 | 60 | 18，000 | 45，000 | 55，980 | 64，650 |
| Calif。 | $13^{\circ} 6^{\prime \prime}$ | 35 | $60^{2}$ | 60 | 18，000 | 45，000 | 68，000 ${ }^{1}$ | 76，300 |
| Colo． | $126^{\prime \prime}$ | 35 | 60 | 60 | 18，000 | 45，000 | 68，000 ${ }^{1}$ | 76，000 |
| conn． | 12＇6＂ | 45 | 45 | No ${ }_{\text {\％}}$ 。 | 22,400 | 50，000 | 50，000 | N。P。 |
| Dela． | $12^{\prime \prime} 6^{\prime \prime}$ | 35 | 50 | 60 | 20，000 ${ }^{3}$ | 48，000 | 60，000 | 60，000 |
| D．C。 | $12^{\prime \prime}{ }^{\prime \prime}$ | 35 | 50 | 50 | 22，000 | 52，000 | 65，400 | 65,400 |
| Fla。 | $12.6{ }^{6}$ | $40^{7}$ | 50 | 50 | 18，000 | 45，000 | 64，， 650 | 64， 6.50 |
| Ga． | $13^{\circ} 6^{\prime \prime}$ | 35 | 45 | 45 | 18，000 | 45，000 | 56，000 | 56，000 |
| Idaho | $12^{\circ} 6^{\prime \prime}$ | 35 | 60 | 65 | 18，000 | 45，000 | 68，000 ${ }^{1}$ | 72，000 |
| Ill。 | 12＊＊＊ | 42 | 45 | 45 | 18，000 | 45，000 | 59，000 | 72，000 |
| Ind。 | $12.6{ }^{\prime 6}$ | 36 | 50 | 50 | 18，000 | 45，000 | 72，0001 | 72，000 |
| Iowa | $12^{\prime} 6^{\prime \prime}$ | 35 | $45^{2}$ | 45 | 18，000 | 45，000 | 60，3001 | 60，800 |
| Kans。 | $12.6{ }^{6}$ | 35 | 50 | 50 | 18，000 | 45，000 | 63，8901 | 63，890 |
| Ky。 | $12^{\circ} 6^{\prime \prime}$ | 35 | 45 | N．${ }^{\text {d }}$ | 18，000 | 42，000D | 42，000 D | N。P。 |
| La． | $12^{\prime \prime}{ }^{\prime \prime}$ | 35 | 50 | 60 | 18，000 | 36，00013 | 64：00013 | 68，00013 |
| Me | 12＊＊ | 45 | 45 | $45^{4}$ | 22，000 | 50，000 | 50，000 | 50，000 |
| Md． | Nos． | 55 | 55 | 55 | $22,400^{5}$ | 52，800 | 63，7501 | 67，500 |
| Mass。 | Nos．${ }_{0}$ | 35 | 45 | N。P。 | 22，400 | 50，000 | 50，000 | $\mathrm{N}, \mathrm{P}$ |
| ITich。 | $12 \cdot 6{ }^{6}$ | 35 | 50 | 50 | 18，000 | 45，000 | 67，0001 | 110，000 |
| Minn。 | 129＊＊ | 40 | 45 | 45 | 18，000 | 45，000 | 60， $000{ }^{1}$ | 60，000 |
| Miss。 | $12^{\circ} 6^{\prime \prime}$ | 35 | 45 | 45 | 18，000 | 45，000 | 52，350 | 52，650 |
| Mo． | 12＊＊＇ | 35 | 45 | 45 | 18，000 | 42，000 | 56，000 | 56，000 |
| Mont | $13^{\prime \prime}{ }^{\prime \prime}$ | 35 | 60 | 60 | 18，000 | 45，000 | 71，9001 | 73，280 |
| Nebr． | $12^{\circ} 6^{\prime \prime}$ | 35 | 50 | 50 | 18，000 | 45，000 | $64.650^{2}$ | 64，650 |
| Ne V 。 | NoS。 | N。R。 | N。R | N。R。 | 18，000 | 45，000 | 69，300 | 76，800 |
| N。H。 | $13^{\prime \prime}{ }^{\prime \prime}$ | 35 | 45 | 45 | 22，000 | 50，000 | 50，000 | 50，000 |
| $N_{0} J_{0}$ | 12＇6＂ | 35 | 45 | 50 | NoS．${ }^{8}$ | 60，000 | 60，000 | 60，000 |
| ＊＊ | $13^{\circ} 6^{\prime \prime}$ | 35 | 45 | 50 | 22，400 | 60，000 | 60，000 | 60，000 |
| N．Mex． | 12＊＊ | 40 | 65 | 65 | 18，000 | 45，000 | 65，200 | 75，000 |
| IN。Yo | $13^{\circ}$ | 35 | 50 | 50 | 22，4009 | 52，800 | 63，750 | 63，750 |
| N。C。 | 129\％ | 35 | 48 | 48 | $18,000^{9}$ | 44，000 ${ }^{9}$ | $58,800{ }^{9}$ a | 58，800 ${ }^{\text {a }}$ |
| N。Dak． | $12^{\circ} 6^{\prime \prime}$ | 35 | 45 | 45 | 18，000 | 45，000 | 60，000 ${ }^{1}$ | $60,000$ |
| Ohio | 12．6＂ | 35 | $45^{2}$ | 60 | 19，000 | 45，000 | 70，000 ${ }^{\text {a }}$ | $78,000^{5} a$ |
| Okla。 | $12{ }^{9} 6^{66}$ a | 35 |  | 50 | 18，000 | 45，000 | 60，0001 | 60，000 |
| Ore。 |  | 35 | $60^{2}$ | 60 | 18，000 | 45，000 | 64， $350{ }^{1}$ | 72，000 |
| Pa． | $12 \cdot 67^{6}$ | 35 | 45 | 50 | 20，000 | 45，000 | 45，000 | 62，000 |
| R。 $I_{\text {。 }}$ | $12^{\prime \prime}{ }^{\prime \prime}$ | 35 | 45 | 45 | 22，400 | 50，000 | 50，200 | 80，000 |
|  |  | 40 | 50 | 50 | 22，400 | 56,000 | 56，000 | 60，000 |
| S．Co | 12＇6＂ | $40^{7}$ | 50 | 50 | 20，00011 | 52，80011 | 71，11511 | 71，11511 |
| S．Dak． | $13^{\circ}$ | 35 | 50 | 50 | 18，000 | 45，000 | $64,650^{1}$ | 64，650 |
| Tenn。 | $12^{\circ} 6^{\prime \prime}$ | 35 | 45 | 45 | 18，000 | 42，000 | 42，000 | 42，000 |
| Tex。 | $13^{\circ} 6^{\prime \prime}$ | 35 | $45^{2}$ | 45 | 18，000 | 45，000 | 48,000 | 48，000 |
| Utah | $14^{\circ}$ | 45 | $60^{2}$ a | 60 | 18，000 | 45，000 | 12，250 | 79，900 |

Sheet 2
TABLE NO． 23

| STATE | LENGTH |  |  |  |  | Maximum Axle Load in pounds | Maximum＊Gross Weight in Pounds |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HEIGHT Single Tractor CombinUnit SemimTrai。 ation |  |  |  |  |  | Tractor Semitrailer Combination Single Axle Tandem |  |  |
| Vt。 | 129 ${ }^{\prime \prime}$ | 50 | 50 |  | 50 | NoS． | 50，000 | 50，000 | 50，000 |
| Fa． | 12＇6＂ | 35 | 45 |  | 45 | 16，000 | 35，000 | 35，000 | 35，000 |
| Wash． | $12^{\prime \prime}{ }^{\prime \prime}$ | 35 | 60 | b | 60 | 18，000 | 45，000 | 68，000 | 72，000 |
| T．Va． | $12{ }^{\prime \prime}$ | 35 | 45 |  | 45 | $\begin{aligned} & 18,000 \text { to } \\ & 22,000 \end{aligned}$ | $\begin{gathered} 40,000 \text { to } \\ 52,000 \end{gathered}$ | 80，000 | 80，000 |
| Wis。 | 12＇6＂ | 35 | 45 |  | 45 | 19，000 | 46，000 | 66，000 | 66，000 |
| Wyo． | 12＇6＂ | 40 | 60 |  | 60 | 18，000 | 45，000 | 65，800 | 73，950 |

## FOOTNOTES：

＊Maximum practical
－gross
＊＊－－N．J．－－effective 1－1－51
＊＊－－R．I。－－effective ll－1－50
D－－On designated highways

| T | Temporary |
| :--- | :--- |
| N．R。 | － |
| No restriction |  |
| N．Po | －－Not permitted |
| N．S． | －Not specified |
| S | －Based on tire size |

1．－－Computation based on three－axle tractor tandem axle semitrailer．
2．－－Trailers limited to 35 feet．2a。－－Trailers limited to 45 feet。 2 b 。－－Trailers limited to 40 feet．
3．－Tandem axles limited to 18,000 pounds each axle。
4．－－Height and length limits subject to 1 foot 6 inches tolerance．
5．－Tandem axles limited to 18,000 pounds each axle if less than 50 inches apart．
5a．－Based on tandem axles spaced more than four feet apart．
6．－－Auto transporters allowed 13 feet 6 inches．
6a．－Auto transporters allowed 13 feet．
7．－－Vehicles over 35 feet must have three axles．
8．－－Restriction is on wheel load and is based on tire size．
9．－－Plus 5 percent overload allowance－also truck must have 300 cubic inch motor．
9 a 。 -350 cubic inch motor．
10。－－Exclusive of couplings．
11．－－Gross weights include 10 percent tolerance．
12．－Highway department may designate road on which 18,000 －pound axle loads and
40,000 －pound gross loads are permitted on three－axle vehicles，50，000
pounds on four or more axles．
13．－－Plus weight on front axle。
Source：TruckwTrailer Manufacturers Assn．Inc．

2．lontana，should increase the size of enforcement staffs，should purchase a sufficient number of portable scales，and should construct the stationary scales necessary for effective en－ forcement of size and weight laws．

3．Vontana，in the interests of safety，should enforce the speed restrictions．Careful considerations also should be given， after pioper engineering and traffic investigation，to estab－ lishing of special speed limits or speed zones for moror trucks．

## SYSTPIS

Ti．believe that too much mileage has been built to 7 percent standards and that a sizeable percentage of it cannot be justified since the 1949 traffic flow map，liap Ho． 3 shows that some of our paved 7 percent systen carried as little as 115 autonobiles per twenty－four hour period whereas；at least， 565 cars per day are necessary to retire the state＇s share of the investment in 20 years．＊We are told that it takes 200 cars per twenty－four hour period to keep a primary road from deteriorating．We doubt if any road can be justified as legitimate 7 percent highmay it if cannot pay for its maintenance and be amortized over a period of not to exceed twenty years．Table iNo． 24 whows that Montana＇s citizens expended $\$ 205,273,109.99$ on highways from April 21， 1913 to June 50，1949．This is a sizeable expenditure for a State with 587,000 people， and we believe that the people are entitled to have their investment maintain－ ed，improved and expanded as efficiently as possible。

Map．INo． 4 shows how difficult it is to build，maintain and then justify highways to 7 percent standards．You will note that the number of people per mile of prinary highay ranges from 19 in Garfield County to 821 in Silver Bow County．ind you will note that $70 \%$ of the people in ITineral County live within one mile of the primary highway，whereas only $12.8 \%$ of the people in Carter County live with in one mile of the primary system．

This means that Nontana must have not only a primary system，but a sub－ stantial mileage of secondary－mor farm to narket roads，in order to serve all its residents at least reasonably well．

## MIGHWAY FACILITIES

Table No。 25 shows that Iont ana has $1,296,282.83$ in highway buildings and facilities and shows the details of the expenditures for the ten fixcal years 1940－1949．Table INo， 26 shows that the present value of the highway equipment is $1,800,941.40$ and shows the expenditures for the ten fiscal years 1940－1949。

## COIVSTRUCTION COSTS

Table No． 27 shows that the unit bid prices on some of the large items of highway construction increased from a unit cost of 100 in 1929 to 500 in 1949。
＊Acting Secy。Iontana Highway Commission letter Aug。7，1950。 See Appendix 1 。

MONTANA STATE HIGHMY DEIARTMENT
TABLT: NC. 24
SOURCES OF TOTAL RTVINUR FROR: APRIL 21, 1913 to JUNE 30, 1919

| SOURCE OF FUNDS | MMCUNT | $\%$ |
| :---: | :---: | :---: |
| Gasoline Tax Receipts | \# 93,973,037.94 | 45.78 |
| Federal Aid \& Other Federal Funds | 82,197,357.71 | 40.04 |
| Proceeds of Bond Sales | 19,500,000.00 | 9.50 |
| County Payments | 5,798,962.38 | 2.83 |
| Notor Vehicle License Fees | 1,813,936.26 | . 88 |
| U. S. Oil Royalties | 1,278,971.30 | . 62 |
| Miscellaneous Recei pts | 710,844.40 | . 35 |
| TOTAL | \$205,273,109.99 | 100.00\% |




TABLE NO. 25

| $\begin{aligned} & \text { Fiscal } \\ & \text { Year } \end{aligned}$ | New Buildings, Storage Sand Houses, ete. | $\begin{gathered} \text { Fuel Oil Storage } \\ \text { Facilities } \\ \hline \end{gathered}$ | New Oil Storage Total Facilitie $s$ |
| :---: | :---: | :---: | :---: |
| 1940 | 56,430.92 | 604.54 | 3,162.97 60,198.43 |
| 1941 | 82,461.95 | 1,466.55 | 6,687.29 90,615.79 |
| 1942 | 9,031.69 | 2,245.59 | 4,941.05 16,218.33 |
| 1943 | 8,345.22 | 302.62 | 374.36.9,022.20 |
| 1944 | 7,203.34 | 120.53 | 1,911.41 9,235.28 |
| 1945 | 1,912.07 | 646.61 | 3,490.11 6,048.79 |
| 1946 | 12,162.42 | 460.77 | 5,220.49 17,843.68 |
| 1947 | 139,639.36 | 285.76 | $589.26140,514.38$ |
| 1948 | 208,622.00 | 3,379.47 | 45,293.71 257,295.18 |
| 1949 | 59,578.65 | 7,048.88 | 19,786.11 86,413.64 |
| TOTAL | \$585,378.62 | \$16,561.32 | \$91,456.76 \$693,405.70 |

Present Value of All Buildings -- \$1,296,282.83


| ＇$x \\| \varepsilon 7^{\circ} 699^{6} 05 S$ | ${ }^{\circ} \mathrm{x}$（ $26^{\circ} 8 \mathrm{~L}$［2690S | OL＊ $28 T^{6} 6 L 9^{6}$ 2 | 8 $L^{\circ} 896^{6} 2 L L^{6} 2$ |  | $L 6^{\circ} 59 z^{6} 6 T^{6} \mathrm{~L}$ | TVLOL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 59．686．989 | $08^{\circ} 802^{6} 288$ | $57^{\circ} 86 \mathrm{~T}^{6} 6 \mathrm{~T} 5^{6} \mathrm{~T}$ | 6762 |
|  | ${ }^{\circ} \mathrm{J}$ | TT ${ }^{\circ} \mathrm{SLS}$ 6 686 | $02^{6} 289^{6} 0$ 27 | OL｀${ }^{7} 58^{6} 69 \mathrm{~L}$ | $0 \varepsilon^{\circ} 9 \& S^{6} 06 T^{6} \mathrm{~L}$ | 8765 |
| ${ }^{*} \mathrm{x}$ |  | TS $5^{\circ} 287^{6} 674$ | $26^{3} \mathrm{LO} 7^{6}$ Lサ己 | $8 S^{\circ} 1 \pi L L^{6}$ ¢ 29 | 05 ${ }^{\circ} \mathrm{CLT}{ }^{6}{ }^{5} 98$ | $L T 6 \tau$ |
|  |  | $88^{\circ} \mathrm{CSS}{ }^{6} £ \pi$ | $87^{\circ} 02 t^{6} 25$ |  |  | 9765 |
|  | －Id $19{ }^{\circ} \mathrm{SLE} \varepsilon^{6} 09$ | $L \varepsilon^{\circ} 8 S L^{6} 7 \mathrm{TL}$ | $94^{\circ} 288^{\circ}+9$ | $8 \mathrm{~T}^{\circ} 820^{6} \mathrm{~T} 97$ | $760097{ }^{\circ} 525$ | 5765 |
|  |  | 2 \％${ }^{\circ} \mathrm{OSS}{ }^{\circ} 62$ | $\varepsilon 6^{\circ} 7 \mathrm{TLS}{ }^{6} 88$ | $6 \varepsilon^{\circ} 290^{6} 8 \varepsilon 7$ | 2 $2 . L 89{ }^{6} 9$ 己S | 1＋762 |
| ，$x_{0} \angle 7^{\circ} 087^{6} \angle 8$ | －$x^{\circ} \angle 7^{\circ} 6^{\circ} 0^{\circ} 56$ | $02 \cdot\left[\square^{6}\right.$ OL | $L T^{\circ} L^{2} T^{6} 50 \tau$ | ST＊OTN ${ }^{6} 628$ | $29^{\circ} \mathrm{T} \angle 8^{6} 787$ | $\varepsilon 76 \tau$ |
| －$x$（100．6\＆5 ${ }^{6} \mathrm{~L}$ | ${ }^{\circ} \mathrm{J} 00 \mathrm{~L}^{\circ} 888^{6} \mathrm{C}$ | $28^{\circ} 6 \mathrm{~L} 8^{6} 9 \mathrm{LT}$ | $26^{\circ} \mathrm{LO} L^{6} 08 \mathrm{~L}$ | 00， $882^{6} 264$ | $26^{*} 566^{\circ} \mathrm{LLS}$ | 己 76 T |
|  |  | $99^{\prime}$ ILL $L^{6} L S T$ | $8 \varepsilon^{\circ} \varepsilon^{\circ} T^{6} 26 T$ | $L 0^{\circ} 267^{6} 5 L E$ | $59^{\circ} \mathrm{SE6} 6^{\circ} \mathrm{ZLS}$ | ¢76T |
| ${ }^{\circ} \mathrm{x} \alpha \mathrm{L} 26^{\circ} 85 \mathrm{~T}^{6} \mathrm{t}$ S | － $10.17^{\circ} 80 L^{\prime} 9$ | 84．988 ${ }^{6}$ L6T | ．$\angle E^{\prime} 8 L T{ }^{\prime} 58 T$ | 8T＇ $780{ }^{6} 88$ \＆ | $5 S * 6 S \tau^{\circ} \mathrm{CLS}$ | ． 076 |
|  |  7！̣っなテき』 <br>  | paseyo．nnd quәud！̣nb MəN | sx̦edəy ェәло stequәบ よo ssəつxig |  | pauxery stequey quaud Ṭnby | エeәt teostia |



Table No． 28 shows that the highway cost per mile of primary construction was approximately $\$ 7,500$ in 1929 as compared to approximately 31,000 per mile in 1949．Secondary construction has increased from approximately 7,500 per mile in 1933 to $\$ 14,000$ per mile in 1949．There are two reasons for the tremendous increase in the cost per mile of road construction．One of these is the general increase in the costs of various items necessary to construct roads such as labor，oil，steel，equipnent，supplies，etc．The second reason why construc－ tion costs increased so tremendously is that 1949 highway standards have been raised to meet the current requirements of larger，heavier loads in vehicles and greater speed．If a road were constructed today on 1929 standards it would be completely obsolete the day it was finished．The surfaced width of primary highways has been increased from an average minimum of 12 feet in 1929 to an average minimum of 22 feet in 1949．Traffic conditions have made it necessary to raise all the specifications in highway construction．

## INCREASED COSTS

Everyone is familiar with the increases which have taken place in the cost of equipment and supplies and the Highway Department is no different from an individual business or housewife running her own home．fll have had the value of their dollar reduced by approximately 50 per cent．

## $\$ 5,134,679,00$ NECESSARY

You will note that the amount available for matching Federal Aid for highway construction，after deducting various expense items，is $\$ 6,716,800$ 。 Table No．15．Of this amount $\$ 4,400,000$（Table No．14）has been provided by the debenture bond sales，and $\$ 1,368,000$（Sheet 3 ，Table No．15）is revenue from temporary sources，which leaves a baiance of $\$ 948,800$ with which to match Federal Aid，whereas，$\$ 6,083,479$ is required if we are to match our allotment of Federal Aid．Therefore，we will have to raise $\% 5,134,679,00$ 。

TEMPORARY REVENUE
Table No．15，Sheet 3
We have referred to the measures which were passed during the final hours of the 1949 Legislature to salvage the highway progran for the ensuing biennial．

During the first six months of 1950 the highway fund received $\$ 1,359,660$ from uss taxes which will expire Dec． 31 ，1951。．This was $62.94 \%$ of the increas－ ed revenue resulting from the 1949 legislation。＊Unless other revenue measures are enacted and before any of these are allowed to lapse they should be ser－ iously considered．

## FOSSIBLE SOURCES OF NEW REVENUE

There are various means of raising the additional revenue．＊＊The first would be to increase the tax on gasoline $1 \frac{1}{2}$ cents．However，there should be no rofund to anyone of this $1 \frac{1}{2}$ cents and without a refund it would raise approximately $\$ 3,375,000$ ．We must be careful not to increase the tax on gasoline to a level which will result in diminishing returns because of buyer resistance．We must
＊Acting Secy．Highway Commission letter 9／6／50。App。2。 ＊＊（See Table IIo。29）

TABLE NO。 28
HIGHWAY CONSTRUCTION - COST PER MLLE
Primary and Secondary Systems


TABLE NO. 29

1. Gasoline Tax
2. Diesel Fuel Tax
3. License Plates
4. Chaffeuer's fees
5. Sales Tax
6. G. V. W. Tax on Trucks
7. Increment Tax on Trucks
8. Ton Mile Tax on Trucks
9. General fund appropriations
10. General property mill levies
11. Town Assessments
12. Registration Fees
13. Federal Aid
14. Property Tax on Vehicles
15. Sale of Bonds
16. Production or Severence Tax
17. Motor Vehicle Carrier Tax

18 Special assessment for improvement districts

NONTANA SOURCES

1. Gasoline Tax \{ Motor Vehicle Fuel Tax
2. Diesel Fuel Tax)
3. Federal Aid
4. Sale of Bonds
also be mindful of gasoline tax rates in the rest of the country and we must especially consider the rates in our neighboring states，which are as follows：

| Washington | $6 \frac{I}{2} \phi$ | Utah | $4 \notin$ | S．Dakota | $4 \notin$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Idaho | $6 \notin$ | Wyoming | $4 \phi$ | Mrinnesota | $5 \notin$ |
| Oregon | $6 \notin$ | N．Dakota | $4 \phi$ | Colorado | $6 \notin$ |

Following is a tabulation of the rates in effect throughout the United States：

| $2 ¢ \mathrm{per} \mathrm{Gal}$ 。 | $44^{4}$ per Gal． | $4 \frac{1}{3}$ \＆per Gal | 66 per Gal． | $6 \frac{1}{2} \&$ per Gal。 |
| :---: | :---: | :---: | :---: | :---: |
| Missouri＊＊ | Connecticut | California | Alabama | Arkansas |
|  | Dist．of Col． |  | Colorado | Cklahoma（6．586） |
| 3¢ per Gal。 | Indiana | 5¢ per Gal。 | Idaho | Washington |
|  | Iowa |  | Maine |  |
| Illinois | New Harnpshire | Arizona | Mississippi | 76 per Gal． |
| Massachusetts | New York | Delaware | Montana |  |
| Michigan | IJorth Dakota | Kansas | Oregon | Florida |
| New Jersey | Ohio | Maryland | South Carolina | Georgia |
|  | Rhode Island | Minnesota | Virginia | Kentucky |
|  | South Dakota | Pennsylvania |  | New Mexico |
|  | Texas | Vermont |  | North Carolina |
|  | Utah | West Virginia |  | Tennessee |
|  | Wisconsin |  |  |  |
|  | Wyoming | $5 \frac{1}{2}$ ¢ per Gal。 |  | 96 per Gal。 |
|  |  | Nevada |  | Louisiana |

While some of lontana＂s neighboring states have lower fuel taxes，they also use other forms of taxation，such as sales tax，general property tax，etc．to sup－ plement highway revenues．

However，it is at once apparent that an increase of $1 \frac{I}{2}$ cents in our gas tax，making a total tax of $7 \frac{1}{2}$ cents，would result in our having the second highest gas tax in America．We would be exceeded only by the 9 cent rate effec－ tive in Louisiana．It is doubtful if this would be wise or fair to the people of Montana．

## 5\＆GASOLINE TAX UNCHANGED FOR 20 YEARS

Table No． 16 shows that the gasoline tax remained at 5 cents from 1929 to 1949。

Inview of the increased demands made upon our highways by the advancement of highway vehicles it would not be fair to expect the same $5 \notin$ gasoline tax to pay for the increased costs brought about by the demands of the notorists for wider，straighter，heavier built highways．The gasoline tax was increased
＊＊The gasoline tax isn＇t the whole story in Missouri。 It brings in about 20 million dollars a year．Another 15 million dollars comes from automobile and drivers＇licenses fees．Bus and truck fees amount to about $\$ 800,000$ 。 About half a million comes from other miscellaneous sources．In addition， over fifty cities also collect a gasoline tax．
one cent as of July l，1949，however，this is only a 20 per cent increase in the principal source of revenue for the building and maintaining of our high－ ways．During this time the cost of construction on the secondary system has tripled，the cost of construction on the primary system has increased 320 per cent，and the cost of maintenance per mile has more than tripled．

## REFUNDS TO NON－HIGIWAY USERS

We believe that it was a mistake for the 1949 Legislature to make this sixth cent subject to refund，since this reduced the net return for the one cent increase by $\$ 600,000$ ．Montana has a six cent gas tax but the effective rate is only $\& 6 / 10$ cents after allowing for the refund which is an ex－ tremely high percentage of gross tax receipts．

Table No。 30 shows the percentage of motor fuel refunded by the various states，and you will note that Montana＇s percentage of refunds is contin－ ually one of the highest．It is especially difficult to explain why liontana should refund approximately 25 percent of the amount collected whereas，our neighbor，Idaho，with approximately the sare geography，approximately the same amount of agriculture，sparsely settled，and with about the same number of sizeable cities，refunds only approximately 10 per cent．

In states having similar laws on gasoline－tax refunds，the percentage refunded or exempted in 1949 was as follows：

| Percent age Refunded | Number of States |
| :--- | :--- |
| More than 20 per cent | 6 |
| （Mont ana included） |  |
| 15 to 20 per cent | 3 |

Table No． 31 shows a comparison of the motor fuel tax earnings for the Highway Fund from 1934 to 1949．You will note that the refunds have increased from 14.54 percent in 1934 to 23.81 percent in 1949．If the sixth cent，which was added to the gasoline tax in 1949，were not subject to refund it would add approximately $\$ 600,000$ to the Highway Fund per year．Many states have a policy of refunding only a part of the tax．＊California and Washington collect a state sales tax on the gasoline purchased if a refund of the gasoline tax is paid．

If we increased the gasoline tax from 6 to 7 cents，with no refund on either the sixth or the seventh cent，it would add approximately $\$ 2,875,000$ to the highway fund，based on 1949 tax collection and refund statistics．We be－ lieve this would be a very reasonable and sensible means by which to raise a large portion of the necessary funds．

Gasoline tax may also be considered a form of sales tax and if it is sub－ ject to refunds it may be viewed as a sales tax which is partially refunded to special groups and it is not unreasonable to consider it a form of class legis－ lation．
＊Permissable in Montana per letter：Att。Gen．Arnold H．Olsen 9／28／49。



| $\begin{aligned} & 25 \cdot L \tau \\ & t \varsigma \cdot \varepsilon \varepsilon \\ & 09 \\ & 09 \cdot \varepsilon \varepsilon \\ & \pi \\ & T \cdot L \tau \\ & \varepsilon L \cdot \varepsilon \tau \\ & \varepsilon L \end{aligned}$ |  |  | $29^{\circ} \mathrm{LZ}$－ 26．2と + 8T． 59 t I2•8G + とし＂टा + | $\begin{aligned} & 62^{\circ}+70 \neq \\ & 59^{\circ} \cdot 22 t \\ & 88^{\circ} 22 t \\ & 95 \cdot 0 \varepsilon t \\ & \varepsilon 0^{\circ} \cdot L 2 t \end{aligned}$ |  |  |  |  |  | OBT「STC・カ <br> L07‘9T6＂2 <br> \＆8T＇T90＇ح <br> 2LT‘次T「T <br> 6\＆5＇6GL |  |  | 270＇982 <br> $598^{\prime} \varepsilon 82$ <br> \＆TL＇877 <br> LT8‘ $\tau L 7$ <br> 96L＇982 <br> 806＇と乌己 <br> L8S＇＂たと己 <br> 808‘टटा <br> 90T‘97 <br> S80＇67 <br> 己LE＇T8 <br> 992‘0LT | 70て＇6т8＇8 95己‘T8T＇8 <br> 926＇205＇L <br> 0 ${ }^{\circ}$＇ 78 ＇9 <br> T Z己＇LIL‘S <br> 809 ＇TLL＇T <br> 97 「「 $^{7} 69$＇と <br> 9LL＇256＇ح <br> 269＇SS6＇T <br>  <br> TML＇8L8 <br> $928{ }^{\prime} 9+7 /$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text {-LJd } \\ \text { samnsxy } \end{gathered}$ | $\begin{aligned} & \text {-LコH } \\ & \text { LTMN } \end{aligned}$ | $\begin{aligned} & \text { - LJd } \\ & \text { SSO甘ŋ } \end{aligned}$ | －${ }^{\text {LI }}$ d <br> STMn $\leq$ TY | $\begin{aligned} & -\mathrm{LOX} \\ & \text { LجN } \end{aligned}$ | $\begin{aligned} & \text { • } \mathrm{LJd} \\ & \text { SSO\&ŋ } \end{aligned}$ | $\begin{aligned} & \text { TVLOL } \\ & \cdot \text { WกวอV } \end{aligned}$ | $\begin{aligned} & \text { HLNON } \\ & \text { YOI } \end{aligned}$ | -TVLOL | $\begin{gathered} \hline \text { HLNON } \\ \text { HOA } \\ \text { HTN } \end{gathered}$ | TVLOL －พกวอง | $\begin{aligned} & \text { HLNON } \\ & \text { HOI } \\ & \text { SSOYO } \end{aligned}$ | $\begin{aligned} & \text { TVLOL } \\ & \text { •WกOวV } \end{aligned}$ | $\begin{gathered} \text { HLNOW } \\ \text { HOA } \end{gathered}$ | TVIOL －พกอัท | $\begin{aligned} & \hline \text { HLNOW } \\ & \text { YOI } \\ & \text { LYN } \end{aligned}$ | $\begin{aligned} & \text { TVIOL } \\ & \text {-WกOOV } \end{aligned}$ | $\begin{gathered} \hline \text { HLNON } \\ \text { HOI } \\ \text { SSOxŋ } \end{gathered}$ |  |
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|  |  |  |  |  |  | OG6T |  |  |  |  |  | 6765 |  |  |  |  |  |  |

[^7]IFontana is fortunate in that there are no cities which demand a share of gasoline tax collections, or impose gasoline taxes for street construction. lione of our gas tax noney goes to build city streets as is the case in many states. Since the city and town folks must pay all the gas tax without any refunds it is very questionable as to the fairness of any but a very small percentage of gas tax refund for anyone else.

If we continue to pay large refunds to some eroups, in fairness to all, we will have to increase the list of those entitled to refunds, or allot a percentage of the motor fuel tax to build municipal streets. Fany urban dvellers rarely operate their cars on highways constructed by gasoline tax funds.

In some states the motor fuel tax is divided as follows:
Irimary Highway System $\quad 1 / 3$

Secondary . Highway Systen $\quad 1 / 3$
Hunicipal Streets $1 / 3$

## INITIATIVE OR REFEREIDUM

Some organizations have suggested that we recormend the institution of an initiative measure, or recomend to the Legislature that they ask for a referendum to entirely eliminate gasoline tax refunds. This is based on the feeling that the refunds have been exorbitant and that the refund privilege has been abused. If the refunds were elininated, you will note fror Table No 31, it would add $\$ 2,900,000$ to the funds available for construction, since that is the approximate amount which will be refunded during the fiscal year 1950. This procedure would involve an election campaign and of course the outcome would be questionable. This might postpone for several nonths, or even two or three years, the retting of the necessary additional highway funds. Furthermore, your Committee doubts that this would be fair to a large number of our citizens. It is quite possible that an initiative or referendurn of this type would pass, since there are many more voters living in cities or towns than there are living in the country, and, as stated before, the urban residents travel a very high percentage of their miles on roads and streets which receive no benefit from the gasoline tax. Ve considered but did not recommend this suggestion.

## ABANDON SECCNDARY PRCGRAN

inother suggestion which has been made is that we abandon the secondary road program which vould then reduce the necessary matching funds required by $\$ 2,320,008$. The secondary system Federal sid in the sum of $\$ 3,075,359$ (See Table No. 14) would be lost. Your Comnittee seriously doubts that this would be a wise suggestion and certainly would hinder progress in our State. ie will have to build the secondary roads eventually if we expect the State to prosper, and if we expect our farmers and ranchers to be competitive with farmers and ranchers in other states. One reason why this suggestion has been made is that the original Federal aid matching funds were to be used on the primary system and the secondary system was not added until 1935. Therefore, the debent ure bonds were sold to match the Federal Aid for the primary system and the gasoline tax which was imposed to pay for the debentures was imposed with the understanding, that it would pay for the debentures and the money spent on the primary system. We considered but did not recommend this suggestion.

## REFYNDS TO SECONDARY SYSTEM

Your Cormittee feels that one suggestion which has considerable merit and which should benefit the secondary road systen which is primarily for the bene－ fit of the farms and other living in the rural areas，is the suggestion that the gasoline tax law be repealed but that 75 percent of the refund，which would be made if the refund were in effect，would stay in the county entitled to the refunds of its residents．This money would then be used to match the available Federal Aid for Secondary roads in that particular county．The other 25 per－ cent of the refund would go to a special fund and would be used to match Federal Aid available to the counties which are more sparsely settled and which would not be in a position to neet their available Federal Aid because of having small refunds．Table ITo。 32 shows the refunds by counties and indicates that many counties would get a great deal of secondary road construction if this recommen－ dation were adopted．

## STRICTHER ENFORCEMENT OF REFUND

Your Committee very definitely feels that there should be stricter enforce－ ment of the refund law，no matter how the refunds are distributed，or what per－ centage of the total tax is refunded．We feel that the enforcement has been extremely lax．We do not believe that there has ever been a conviction for violating the refund law。 A certain number of claims are returned to the field but we believe the only penalty as to disallow a part of the claim。

Opinions expressed from all parts of the State thoroughly convinced the Comittee that our gasoline tax refund law is being constantly violated．Your Comittee strongly urges that a careful study be made of the methods of regu－ lations governing tax refunds on all fuels，and that the penalty for placing false claims be a fine of not less than $\psi 100.00$ nor more than $\$ 1,000.00$ ，or six months in jail，or both，and that the maximum penalty be mandatory upon conviction of a third of fense．The above penalties should be applied to all fuel tax evasions．It is the Committee＇s opinion that the Board of Equali－ zation has been consistently understaffed to adequately enforce the gasoline tax refund law．

To aid enforcement and to abolish the practice of collecting the refund before the tax has been paid your Committee recommends that all claims for refunds be accompanied by recei pted invoices and that claims must be sub－ mitted within ninety days from the date of purchase of the gasoline．

To aid the enforcement of the tax refund law，we recommend a law which will require the adding of color and odor to the gasoline on which a tax is to be refunded．Several states use this method to aid enforcement and they report very good results．Two of the states are New Kexico and Mississippi．

Inspection and enforcement to be handled by the Highway Patrol，with overall administration by the IIighway＂Administrator＂。 All fines accruing from gasoline tax refund violations to be used for highway purposes．

## TRUCK LICENSING

It is the opinion of the Committee，based on statements made by various organizations who appeared before the Comnittee，that the present rethod of licensing and taxing trucks is one of the most glaring inequities in Montana＇s


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tax structure。 Ifont ana is one of the few states in which trucks are licensed on a rated tonnage basis as per Table No． 33.

A preliminary study made by the Montana Highway Dept．shows that the ton mile tax on passenger cars is much higher than it is for trucks．It indicates that truck fuel and use taxes should be increased as nuch as $245 \%$ to make them comparable to passenger car taxes．

It was impossible to arrive at truck tax figures which would be comparable to those of all the other states because of the large number of different types of taxes used by the various states some of which are effective in one state and not in another．Furthermor，there is a wide variation between the amount paid in one state as compared to that paid in another，for example：a heavy truck in New York pays approximately $\$ 140,00$ while the sane truck viould pay $\$ 2,000.00$ in Colorado and nearly $\$ 4,000,00$ in Florida。

To eliminate some of the inequity the 1949 Legislature passed one of the stopgap measures previously referred to and temporarily anacted a measure en－ titled，Use Tax．It is the conviction of your Comnittee that a fair solution to the reveneu problem is first to adjust highway－user tax rated and fees to equalize the financial responsibility of all classes of behicles according to the amount of use they make of the highways and streets and we felt it advisable to try to raise the various rated and fees proportionately to produce the ree quired reveneu。．It is therefore recormended that a Gross Vehicle Weight Law be enacted．

You will note in the following reconmended schedule of Gross Vehicle Weight fees that we are recomending the same fees for trailers and semi－trailers a truakes and tractors of corresponding weights pending a technical survey now being made with respect to semiotrailer fees which will be available to Montana upon completion about November 15， 1950.

Manufacturers rated capacity does not have any relationship to the load the truck or trailer will carry；whereas $G_{0} V_{0} W$ 。rating is the best measure of the road use to be made by the truck．

FROPOSED TAX SCHEDULE FOR TRUCKS，BUSES，TRAILERS，AND SEMI－TRAILARS BASED ON GROSS VEHICLE WEIGHT＊＊

The following graduated fees would be imposed in addition to a flat license plate fee of $\$ 10.00$ per vehicle：（See Table No．34）

| Declared Gross Teight | Fee | Declared Gross Woight | Fee |
| :---: | :---: | :---: | :---: |
| Up to 6，000 lbs． | \＄11．00 | 24,001 to 26,000 lbs。 | \＄138．00 |
| б，001 to 8，000 lbs。 | 18.00 | 26,001 to $28,000 \mathrm{lbs}$ 。 | 159．00 |
| 8,001 to $10,000 \mathrm{lbs}$ 。 | 21.00 | 28,001 to $30,000 \mathrm{lbs}$ 。 | 180．00 |
| 10，001 to 12，000 lbs． | 30.00 | 30,001 to $32,000 \mathrm{lbs}$ 。 | 204.00 |
| 12，001 to 14，000 lbs 。 | 39.00 | 32,001 to $34,000 \mathrm{lbs}$ 。 | 231.00 |
| 14,001 to $16,000 \mathrm{lbs}$ 。 | 51.00 | 34,001 to $36,000 \mathrm{lbs}$ 。 | 258．00 |
| 16,001 to $18,000 \mathrm{lbs}$ 。 | 63，00 | 36,001 to $38,000 \mathrm{lbs}$ 。 | 285.00 |
| 18，001 to $20,000 \mathrm{lbs}$ 。 | 78.00 | 38,001 to $40,000 \mathrm{lbs}$ 。 | 312.00 |
| 20，001 to 22，000 lbs | 96.00 | 40,001 to 42，000 lbs． | 342.00 |
| 22，001 to $24,000 \mathrm{lbs}$ 。 | 117.00 | Cver $42,000 \mathrm{lbs}$－$\$ 34$ | plus \＄30．00 |
|  |  | for each ton or fracti cess of $42,000 \mathrm{lbs}$ ． | hereof in ex－ |

＊See Table No． 35 for comparison of various methods and rates suggested and con－ sidered．

TABLE NO. 33

## MOITTANA TRUCK LICENSE FEES

| TRACTOR OR TRUCKS | Regular <br> Fee | Use <br> Tax | Total |
| :--- | ---: | ---: | ---: |
| I ton or under | 5.00 | 5.00 | 10.00 |
| Over I ton \& up to \& including l $\frac{1}{2}$ ton | 10.00 | 10.00 | 20.00 |
| Over I $\frac{1}{2}$ ton \& up to \& including 2 ton | 22.50 | 22.50 | 45.00 |
| Over 2 ton and less than 3 ton | 37.50 | 37.50 | 75.00 |
| 3 ton | 60.00 | 37.50 | 97.50 |
| Over 3 ton | 60.00 | 60.00 | 120.00 |
| 5 ton | 200.00 | 60.00 | 260.00 |
| Over 5 ton | 200.00 | 100.00 | 300.00 |

## Changing to a Flat Rate of $\$ 10.00$ Would Result In The Following Difference In County Income

TABLE NO. 34

| 1 ton or under | 35,498 | 5.00 | \$177,390 | 10.00 | \$354,980 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Over 1 ton \& up to \& including $1 \frac{1}{\text { l }}$ ton | 22,063 | 10.00 | 220,630 | 10.00 | 220,630 |
| Over $1 \frac{1}{2}$ ton \& up to \& including 2 ton | 1,833 | 22.50 | 41,242 | 10.00 | 18,330 |
| .Over 2 ton \& less than 3 ton | 1,309 | 37.50 | 49,087 | 10.00 | 13,090 |
| Over 3 ton \& less than 5 ton | 314 | 60.00 | 18,840 | 10.00 | 3,140 |
| Over 5 ton | 164 | 200.00 | 32,800 | 10.00 | 1,640 |
|  | 61,181 |  | \$540,089 |  | \$611,810 |

Increased Truck Revenue for the Counties \$71,721.00

Less than $\sigma \%$ of the trueks registered in Montana are now licensed to carry 2 tons or more.

1949 registrations

TABLE NO. 35
PROPOSED TAX SCHEDULE FOR TRUCKS BASED ON GROSS VEHICLE WEIGHT

| Model | Type | Capacity <br> \& Wheel Base | Unladen Weight | G.V.W. | Payload | Tires | Present License And Use Tax Based on Capacity | Proposed by Mont. Motor Trans. Assoc. based on unladen weight | Utah based on unladen weight | Waahington based on C.V.W. Flat Fee $\$ 5.00$ plus following | - Califormia based on unladen weight \& G.V.W. Flat Fee $\$ 6.00$ plus following | Proposed For Montana based on G.V.W. Flat Fee 10.00 plus following |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { F-l } \\ n \\ n \end{gathered}$ | Pickup | $\xrightarrow{\frac{1}{2} \text { T Ton }}$ | $\begin{aligned} & 3235 \\ & 3253 \\ & 3260 \end{aligned}$ | 4000 4400 4700 | $\begin{array}{r} 765 \\ 1147 \\ 1440 \end{array}$ | $\begin{aligned} & 6.00 \times 16-4 \mathrm{ply} \\ & 6.00 \times 16-6 \mathrm{ply} \\ & 6.50 \times 16-6 \mathrm{ply} \end{aligned}$ | Lic. 5.00 -Use $\operatorname{Tax}_{\pi}^{\pi}$ | \$ $\begin{gathered}20.00 \\ n \\ n\end{gathered}$ | \$7.50 | \$ $\begin{gathered}11.00 \\ n \\ n\end{gathered}$ | \$ 10.00 | \$ 11.00 |
| F-2 | Express | $\underset{\substack{\text { 3/4 Ton L.D. } \\ n \\ n}}{ }$ | $\begin{aligned} & 3738 \\ & 3770 \\ & 3792 \end{aligned}$ | $\begin{aligned} & 4900 \\ & 5300 \\ & 5700 \end{aligned}$ | $\begin{aligned} & 1162 \\ & 1530 \\ & 1908 \end{aligned}$ | $\begin{aligned} & 6.50 \times 16-6 \mathrm{ply} \\ & 7.00 \times 16-6 \mathrm{ply} \\ & 7.50 \times 16-6 \mathrm{ply} \end{aligned}$ | " | 20.00 $n$ $n$ | 15.00 $"$ | 17.00 | 10.00 | 17.00 |
| F-3 $n$ $" 1$ | Express | 3/4 Ton H.D. | $\begin{aligned} & 3969 \\ & 3982 \\ & 4000 \end{aligned}$ | $\begin{aligned} & 5600 \\ & 6100 \\ & 6800 \end{aligned}$ | $\begin{aligned} & 1631 \\ & 2118 \\ & 2800 \end{aligned}$ | $\begin{aligned} & \text { 7.00 } \times 17-6 \text { ply } \\ & 7.00 \times 17-8 \text { ply } \\ & 7.00 \times 17-6 \text { ply Front } \\ & 7.50 \times 17-8 \text { ply D.R. } \end{aligned}$ | " | 20.00 | 15.00 | 11.00 18.00 | 10.00 in 21.00 | $\begin{aligned} & 11: 00 \\ & 18: 00 \\ & 10 \end{aligned}$ |
| $\mathrm{F}_{\mathrm{j}}{ }^{\text {- }}$ | Ch. $\underbrace{\text { e }}_{n} \mathrm{Cab}$ | $1{ }_{\text {n }}$ Ton | 3902 4060 | 7500 10000 | $\begin{aligned} & 3598 \\ & 5940 \end{aligned}$ | $\begin{aligned} & 7.00 \times 20-8 \text { ply single } \\ & 7.00 \times 18-8 \mathrm{ply} \text { D.R. } \end{aligned}$ | " | 20.00 30.00 | 15.00 | 18.00 22.50 | 10.00 21.00 | 18.00 21.00 |
| $\underset{\sim}{\mathrm{F}-5}$ | Ch. ${ }_{n}^{8} \mathrm{Cab}$ | $1 \mathrm{l}_{\frac{1}{2}} \operatorname{Ton}_{\mathrm{n}} 158^{\prime \prime} \mathrm{W} . \mathrm{B}$ | $\begin{aligned} & 4338 \\ & 4580 \end{aligned}$ | $\begin{aligned} & 10000 \\ & y_{4} 000 \end{aligned}$ | $\begin{aligned} & 5662 \\ & 9420 \end{aligned}$ | $\begin{aligned} & \text { 6.50 } \times 20-6 \text { ply D.R. } \\ & 7.50 \times 20-8 \text { ply D.R. } \end{aligned}$ | Lic.10.00-Use Tax ${ }_{\text {II }}$ | 30.00 | 15.00 25.00 | 22.50 30.00 | $\begin{aligned} & 21.00 \\ & 39.00 \end{aligned}$ | $\begin{aligned} & 21.00 \\ & 39,00 \end{aligned}$ |
| $\stackrel{F}{\text { F-6 }}$ | Ch. ${ }_{\text {\% }}$ | 2 Ton ${ }_{n} 158^{\prime \prime}$ W.B. | $\begin{aligned} & 4660 \\ & 4765 \end{aligned}$ | $\begin{aligned} & 14000 \\ & 16000 \end{aligned}$ | $\begin{array}{r} 9340 \\ 11235 \end{array}$ | $\begin{aligned} & 7.50 \times 20-8 \text { ply D.R. } \\ & 7.50 \times 20-8 \text { ply Front } \\ & 8.25 \times 20-10 \text { ply D.R. } \end{aligned}$ | Lic.22.50-Use Tax ${ }_{\text {n }}$ 22.50-Tot.45.00 | 30.00 | 25.00 | 30.00 50.00 | $\begin{aligned} & 39.00 \\ & 51.00 \end{aligned}$ | $\begin{aligned} & 39.00 \\ & 51.00 \end{aligned}$ |
| F-7 | Ch. ${ }_{n}^{8} \mathrm{Cab}$ | $2 \frac{1}{2}$ Ton ${ }_{11} 159{ }^{\prime \prime}$ W. B | $\begin{aligned} & 6186 \\ & 6300 \end{aligned}$ | $\begin{aligned} & 17000 \\ & 19000 \end{aligned}$ | $\begin{aligned} & 10811_{4} \\ & 12700 \end{aligned}$ | $8.25 \times 20-10$ ply D.R. $9.00 \times 20-10$ ply D.R. | Lic. 37.50 -Use $\mathrm{Tax}_{\mathrm{n}}^{\text {Tax }}$ 37.50-Tot. 75.00 | 40.00 | ${ }_{\square}^{50.00}$ | 50.00 70.00 | $\begin{aligned} & 63.00 \\ & 78.00 \end{aligned}$ | $\begin{aligned} & 63.00 \\ & 78.00 \end{aligned}$ |
| F-8 | Ch. ${ }_{\\|}^{\text {\& }}$ Cab | 3 Ton ${ }_{\text {n }} 159{ }^{\prime \prime}$ W. B. | $\begin{aligned} & 6686 \\ & 6820 \end{aligned}$ | $\begin{aligned} & 20000 \\ & 22000 \end{aligned}$ | $\begin{aligned} & .13314 \\ & 15180 \end{aligned}$ | $\begin{array}{r} 9.00 \times 20-10 \text { ply D.R. } \\ 10.00 \times 20-10 \text { Ply D.R. } \end{array}$ | Lic.60.00-Use Tax 37.50-Tot.97.50 | 40.00 | 50.00 | $\begin{array}{r} 95.00 \\ 120.00 \end{array}$ | $\begin{aligned} & 78.00 \\ & 96.00 \end{aligned}$ | $\begin{aligned} & 78.00 \\ & 96.00 \end{aligned}$ |

NOTES: ${ }^{*}$ Ford Mot or Coipany Truck Handbook - 1950
** Proposed by Senate Interim Comittee (Created by S. R. 129 of 1949 Regular Session) for consideration by 1951 Session. The Comittee is recommending that Unladen Weight method of assessing fees be abandoned in favor of $\mathrm{C}_{0} \mathrm{~V} . \mathrm{W}_{*}$ for trucks with unladen weight of 4,000 pounds and up.
(1)

HCUSE TRAILERS - 50¢ per foot of overall length, with minimum fee of $\$ 5.00$ Registration fee of $\$ 5.00$ 。

At the time of applying for license, the applicant owner, shall declare the maximum gross weight of the truck, trailer, or other vehicle, loaded. The declared loaded weight of the vehicle shall be shown on his receipt for payment of the capacity fee and the declared gross loaded weight of the vehicle shall be stamped on the vehicle in a place visible to highway patrolmen. Trucks, trailers, or semi-grailers shall be subject to inspection and weighting at all times by enforcement officers.

The semi-trailer units are to pay the G.V.W. fee on the tractor, the semitrailer is to pay a license fee and carry license plates but not pay a capacity foe。

Loading of units in excess of the declared gross loaded weight shall constitute a violation of the law, and penalty for violation shall be a fine of not less than $\$ 100$ for the first offense, $\$ 250$ for the second offense, and $\$ 500$ for the third offense. $\$ 500$ shall be the maximum penalty for any offense. The county trassurers are to remit the proceeds to the State Highway Department every 30 days after deducting $5 \%$ to defray expenses.

The law should require that excess weight be unloaded at the location where the infraction is discovered.

The eapacity fees will be collected by county treasurers at the time lieonse plates are issued for each vehicle annually. The procepds from same shall be remitted to the State Treasurer on the first day of each month for the credit of the Montana Highway Cormission.. County Treasurers will be author ized to collect one-half of the eapacity fee on license applications submitted after July lst of any year. County Treasurers are, to deduet $5 \%$ from the amounts collected to delray their expenses.

Trucks, tractors, trailers, and semi-trailers, with gross weight exceeding 20,000 lbs. should be allowed to purchase gross weight licenses for three cal-endar-month period at $1 / 4$ the above fees, plus $\$ 10.00$ additional fee.

## OVERLEGAL LOADS

Montana provides for overlegal permits See. 32-1127, however, our law does not provide proper fees and penalties and we recommend the enaetment of the fees and provisions as stated in Appendix No. 3 which is taken from the Washington law.

## ITINERANT TRUCKS

In view of the large number of itinerant trucks which travel into Montana, many of them making only an oceasional trip, we believe it necessary to tax them on a mileage basis in accordance with the tonnage they are carrying. We recommend a mileage fee as shown on Table No. 36.

## MILEAGE TAX RATE TABLE FOR ITINERANT TRUCKS

TABLE NO. 36

|  | Fee Rates |  | Fee Rates |
| :---: | :---: | :---: | :---: |
| Declared Combined Weight (pounds) | $\begin{gathered} \text { Per Mile } \\ (\text { Nills }) \end{gathered}$ | Declared Combined Weight (pounds) | $\begin{aligned} & \text { Per Mile } \\ & \text { (Mills) } \end{aligned}$ |
| 4,501 to 6,000 inclusive | 6.00 | 28,001 to 30,000 inclusive | 23.00 |
| 6,001 to 8,000 | 7.50 | 30,001 to 32,000 | 24.00 |
| 8,001 to 10,000 | 9.00 | 32,001 to 34,000 | 25.50 |
| 10,001 to 12,000 | 10.50 | 34,001 to 36,000 | 26.50 |
| 12,001 to 14,000 | 12.00 | 36,001 to 38,000 | 27.50 |
| 14,001 to 16,000 | 13.50 | 38,001 to 40,000 | 29.00 |
| 16,001 to 18,000 | 15.00 | 40,001 to 42,000 | 30.50 |
| 18,001 to 20,000 | 16.50 | 42,001 to 44,000 | 32.00 |
| 20,001 to 22,000 | 18.00 | 44,001 to 46,000 | 33.50 |
| 22,001 to 24,000 | 19.50 | 46,001 to 48,000 | 35.00 |
| 24,001 to 26,000 | 21.00 | 48,001 and over | 36.50 |
| 26,001 to 28,000 | 22.00 |  |  |

## FARM TRUCKS

Motor trucks owned and operated by farmers in the transportation of their own orchard, farm, dairy, or other agricultural produce from point of production to market should pay half fees up to seven tons $G \circ V$ oW. and the regular fees for seven tons and over. Motor trucks owned and operated by co-operative associations or co-operative marketing associations are to pay the regular fees.

## 4-WHEEL VAN TRACTOR AND 4-WHEEL VAN TRAILER COMBINATION

Classed as two separate units。 Pay same fees as tractor and semi-trailer shown above.

## INCREMENT TAX

The State of Oregon has been one of the most progressive in highway administration and you will recall they were the first to use the gasoline tax. They are now developing another first, known as the increment tax system for trucks and buses. They have had an Interim Committee since 1935 and they have also had an engineering survey made by the National Highway Users Conference, an independent engineering organization. They found that the fair way to approach the truck tax problem was to figure the cost of highways necessary to carry passenger cars and small commercial units; then to figure the successive cost increases necessary to carry successively larger vehicles. They decided that trucks and buses should pay for one-third of the entire highway construction cost. The State of California, which has approached the problem in a similar way, has figured the amount reasonably chargeable to trucks at 22 per cent.

Oregon then grouped the various units on a gross vehicle weight basis and charges a successively higher mileage charge per mile with the idea that the truck operators should pay for the heavier road and pavement structures which they demand and for the mileage they travel on Oregon highways. This system of taxation seems very fair to your Committee. However, the Committee felt that it might be difficult to police and enforce such a tax. We thought it advisable to wait until the State of Oregon and probably others, have more experience with the actual speration of this type of third structure tax. The original law was first passed by the 1947 Session.

## UNIADEN NEIGHT vs G.V.W.

We considered the unladen weight method of taxing trucks, however, we found that, at least, some of the states which are using this method are very anxious to dispose of it. California has used this method for several years and has tried to get its Legislature to substitute the GVW method during their two most recent sessions. However, California also assesses commercial trucks a gross receipts tax which has complicated their problem of trying to change from the Unladen Weight to GVW. Their Interim Legislative Fact Finding Committee is again going to strongly recommend the GVW method.

We also contacted the highway officials of Utah where they now use the Unladen method. They have advised us that they would much prefer to use the GVW method and they are going to recommend the change to their next Legislature.
＂The most povular measure is gross weight which is now used in 25 states． Moreover，five states which have revised their user－tax systems since 1943 have shifted from some other measure to gross weight for heavy vehicle taxation。（ $I_{0}$ ） We have discovered no state which has discarded gross veight for some other measure．Our correspondence with administrators in other states reveals no dis－ satisfaction with the gross weight system。（2．）

Gross weight appears to be superior to unladen weight as a tax measure for several reasons．（3．）First，the relationship between unladen weight and the actual weight which a vehicle will impose upon the highway is a loose one at best． Two vehicles may have equal unladen weights but the actual weights they impose on the highways may vary considerably．It seems manifestly unfair to charge one vehicle which weighs 5，000 pounds unladen but never weighs as much as 10,000 pounds on the highway the same fee charged another vehicle which imposes $1 \leq, 000$ or 15,000 pounds on the highway．

From an engineering standpoint，gross weight rather than unladen weight is a consideration in the design and construction of roads and bridges，and it is the loaded vehicle，not the empty vehicle，which may cause damage to highway facilities．（4．）

Considered in relation to relative use of the highways，it also appears that gross weight is a better tax measure than unladen weight．Thus，a vehicle which carries a load equal to twice the load carried by another vehicle of equal un－ laden weight appears to derive the greater benefit from highway use．（5．）

In addition to promising more equitable tax treatment，the gross weight me－ thod of taxation should aid highway policing and promote highway safely．No Vehicle could be licensed for more than the maximum load which it is permitted by law to carry on the highways．Thus，a vehicle vhich was over loaded vould be in violation of both the licensing and the load limitation statutes．Fenalties and possible loss of license would be a strong added deterrent to excessive load－ ing．It is also likely that smaller vehicles would not ordinarily be licensed

1．These are Arkansas，Kentucky，Maine，Mississippi and Missouri。
2．A list of questions regarding certain features of Eross weight taxation and enforcement was submitted to administrators in each of the states which use the gross weight system．The replies furnished useful information for formulating the tax system suggested here．

3．See Lindman，OP．cit。g p．78；and Board of Investigation and Research op。cit。，pp．210－211。

4．Nore precisely，axle loads and spacing are primary considerations but in the interest of simplification gross vehicle weight is considered the most satisfactory tax measure。

5．It is not implied that declared gross weight is a precise measure of highway use．For example，one vehicle may carry the maximum for which it is licensed only infrequently during the registration period while another may nearly always operate at its licensed naximum。 Neverthless， gross vehicle weight appesrs to have a closer relationship to highway use than unladen weight。

## SDNINISTRATION

Administration of gross weight taxation appears to be more difficult than the unladen weight system. However, the advantages of unladen weight taxation from an administrative standpoint are somewhat illusory. In order to check possible unladen weight fee violations it is necessary to weigh vehicles when empty. Rarely are vehicles completely empty. At least they are not as ompty as when weighed for the original unladen weight fee determination. In fact, it seems to be widespread practice to strip vehicles to a bare minimum for original weighing in order to rinimize unladen weight fees. Obviously, when the Highway Patrol checks for load limit violations, it cannot, at the same time, check unladen weights without unloading the vehicles.

Cn the other hand, if gross weight taxation were adopted, weighing by the Fatrol would provide a simultaneous check on both compliance with the licensing law and the axle load limitation laws.

Iio doubt effectual administration of gross weight licensing would renuire an increase in the number of state highway scales. However, in our opinion, the additional equipment ought to be provided in any event to permit better control of loading practices. Strict enforcement of size and weight limitations is essential if we are to preserve the tremendous investment which has been made in our road plant. Adequate compliance is not secured at present. With more equipment and with the added force of penalties for improper licensing, the Highway Patrol should be able to better its program of highway protection。**

## TAX ON INEV CARS

One of the stop-gap revenue measures adopted by the 1949 inontana Legislature was a new car tax and it is estimated that the annual net return to the Highway Department will be $\$ 314,000$ as shown on Sheet 3, Table No。15. This law was passed on the theory that a citizen who buys a new car after the first of January does not pay a property tax since January lst is the assessment date for automobiles. However, in effect this law assesses new automobiles for taxation every day during the entire year whereas other property is assessed on only one day, the first Monday in March.

It should also be remerabed that the purchaser of a new car immediately starts to pay into the highway fund by paying gasoline tax.

There is another glaring inequity in this law in that it charges the same rate for all makes of automobiles, regardless of the price, which in turn is at least some measure of the ability to pay. Therefore, we recommend that if this tax is to be retained that it be assessed at the rate of one percent of the F.O.B. list price of the automobile, during the first quarter, three-fourths of one percent during the second quarter, one-half of one percent during the third quarter, and one-fourth of one percent during the fourth quarter, this assessment to be made when the owner applies for his original Montana license through his County Treasurer. The foobb list price of all automobiles is shown in the N. A. D. A. Book, or Blue Book, either one of which is in every County Treasurer's office for assessment purposes.

[^8]With regard to used automobiles which are brought into Iontana and ara licensed in rontana for their first time, the percentage should be the same as for new cars, declining quarterly. The valuation should be the average retail price shown in the N. A. D. A. Book for the vehicle.

The proceeds from the above tax should be remitted to the State Treasurer every 30 days for the credit of the Iontana Highway Commission. County Treasurers should be allowed to deduct $5 \%$ from the arount collected to defray their expenses.

## M. R. C. FUINDS

Your Committee has been advised that among the revenue paid to the lontana Railroad Comission are M.R.C. funds paid by public carriers, mainly trucks and buses. We understand that these funds are used to operate the Department and that there is an annual surplus of approxinately $\$ 75,000$ which is paid to the State General Fund. We propose that since this revenue comes fron the highways, that any surplus which may accrue from year to year should go to the highway fund. It is recommended that legislation necessary to accomplish this transfer be enacted.

## $2 \%$ PETROLEUM FRODUCTICII TAX

Since a very high percentage of crude oil is eventually used in automobiles which use our highway system we recomend that the $2 \%$ Petroleum Production tax* be paid into the Highway Fund instead of into the State General Fund. It was the feeling of the Cormittee that the Highway system should be self supporting and the revenue should come from the transportation industry and we believe that the Fetroleum Production Tax is part of this revenue.

SURMARY CF TAX MEASURES RECOMIENDED AND AFPROXIMATE REVENUE THEY WILL PRODUCE
Additional $1 \phi$ per gallon tax on motor fuels without refund Eliminate refund of le of present gasoline tax Gross Behicle Meight tax
New car tax in lieu of property tax
$\$ 2,250,000.00$
$600,000.00$
$1,500,000.00$
$325,000.00$
$500,000.00$
Stricter enforcement of gasoline tax refund law
Transfer state petroleum production tax revenue to Highway fund

$$
\begin{array}{r}
474,000.00 \\
75,000.00 \\
8,000.00 \\
\hline \$ 5,732,000.00
\end{array}
$$

Transfer 1 RC motor vehicle surplus revenue to Highway fund 75,000.00 Notor transport caravan tax

The above recormendations are the result of considerable study of liontana's highway problem which is very similar to the problems faced in most other states but, if we intend to progress in a state with vast area and small population we must give every possible consideration to improving, expanding, and maintaining our highways. To have the highways which Montana must have to attract new industries, to make our products competitive with those of other states and to compete for tourist revenue will cost money. If we want Montana to grow and prosper there is no better way than through a financially sound highway program

[^9]for which every segment of our economy should be willing to pay its fair share。
Nontana must move ahead or back, there is no chance to stand still, transportation has been essential since the dawn of history and its importance grows as civilization moves ahead. If we are unable to get all the suggested program because of some selfish groups let us get as much as possible and this group or groups may decide later to pay their fair share. Someone had said, "Do not sacrifice a possible good for an improbable better."
"The highest highway in the world is in the Feruvian Andes, the longest is the old silk route in Central Asia, the most heavily traveled is between New York and Fhiladelphia, but the most important highway in the world is the road past your door."

The highway past your door costs money and you must be willing to pay.

## STATE ADVERTISING

We briefly referred to tourist revenue $(\$ 65,294,801$ in 1949: report by Albert Erickson, Montana Advertising Director) and would like to call your attention to the fact that Table No. 37 shows the estinated sources of revenue for 1950 , and shows that 12 percent of our gasoline tax is paid by out-of-state cars and trucks, and results in highway revenue in the amount of $\$ 1,204,860.00$. The $\$ 50,000.00$ advertising budget is only 4.15 percent of the tourist tax income, and is less than $1 / 10$ of 1 per cent of the tourist revenue. However, if we build highways with lontana residents in mind and for their benefit and enjoyment, we will continue to attract tourists and travelers. This will increase their contributions to the dighway funds and in addition they will continue to swell the amount spent by tourists, which benefits every resizent of our State. In this connection, we believe that it would be advisable for the State of Montana to give serious consideration to increasing the advertising appropriation by at least four or five times the alloted $\$ 50,000$ per year. If we are going to sell the attractions of the State of Montana in the population centers of the country we must compete with the other states. Some of the annual advertising appropriations are as follows:

| Oklahoma | $\$ 870,200$ |
| :--- | ---: |
| New Mexico | 251,000 |
| Oregon | 250,000 |
| Washington | 125,000 |

Montana ranks 34 th among the 42 states which appropriate state money for advertising.

## RIGHT OF WAY

The acquisition of land on which to construct modern highways and streets constitutes a major element of cost, in contrast with earlier periods when property was not as highly developed and owners conceded much right of way to gain the benefits of new roads.

Relocation of an existing facility almost always involves the acquisition of valuable property adjacent to an existing route, quite often at such an expense that consideration must be given to another location. This may be undesirable because of the effect on property values near the existing route and because a
TABLE NO, 37
 DISTRIBUTION BY TYPE OF VEHICIE AND TYPE OF OWNERSHIP ESTIMATED FIGURES FOR YEAR 1950

| TYPE OF VEHICLE AND OWNERSHIP | GASOLINE TAX |  | VEHICLE TAX |  | TOTAL TAX |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Amount | \% | Amount | \% | Amount | \% |
| Rural Passenger | \$2,135, 888 | 21.45 | \$ 308,527 | 21.65 | \$2, 44, 415 | 21.47 |
| Urban Passenger | 2,842,872 | 28.55 | 462,790 | 32.47 | 3,305,662 | 29.04 |
| Out-of-State Passenger | 1,100,306 | 11.05 | -0- | -0- | 1,100,306 | 9.67 |
| Sub-Total | 6,079,066 | 61.05 | 771,317 | 54.12 | $6,850,383$ | 60.18 |
| Rural Truck \& Bus | 2,668,615 | 26.80 | 475,361 | 33.37 | 3,143,976 | 27.62 |
| Urban Truck \& Bus | 1,105,285 | 11.10 | 158,453 | 11.11 | 1,263,738 | 11.11 |
| Out-of-State Truck \& Bus | 104, 554 | 1.05 | 19,983 | 1.40 | 124,537 | 1.09 |
| Sub-Total | 3,878,454 | 38.95 | 653,797 | 45.88 | 4,532,251 | 39.82 |
| TOTAL | 9,957,520 | 100.00 | 1,425,114 | 100.00 | 11,382,634 | 100.00 |

new location might result in only partial benefits to potential users．
Rights of way for all systems must be adequate for future widening when re－ quired，to preserve the highway investment，to permit roadside development of scenic values including picnic spots and roadside parks along the route，and to control movement on and off the highway．

It is necessary that locations on all routes be permanently established as rapidly as possible and rights of way acquired far in advance of construction。 Early acquisition often results in substantial financial savings，and tends to stabllize community development．

We suggest that the assossed value as show by the county records be used as prima facie evidence as to the value of the property．If part of some prop－ erty is sold to the Highway department for an arnount in excess of the assessed valuation than the adjacent property owned by the same party should be assessed at the price received for the property sold．Fublic funds should not be used to pay phoney prices．

## REFUND MORATCRIUM

One method suggested to obtain funds especially if we are in danger of losing Federal sid for the secondary system，is to enact a moratorium on refunds for two years．This money，together with the matching Federal aid，could only be used on the secondary system and in the county whose residents would have been entitled to the refund．

Your Committee did not feel that it would be advisable or fair to suggest any system which would eliminate all the refunds even for a limited time．

## USE FUEL TAX

Your Committee passed a resolution as follows：＂Vehicles using fuel，other than gasoline are to pay $25 \%$ more than the regular truck weight fees．＂It was the feeling of the Committee that diesel fuel and other fuels used in place of gasoline should pay a higher percentage per gallon than the rate paid on gasoline because of the greater mileage obtained from these fuels．However，we are not prepared to make a definite recommendation at this time，but will supplement this report with a definite recommendation about December lst．The State of Vashington is now making a $\$ 50,000.00$ study to determine the fair rate to be charged various use fuels as compared to gasoline．They have advised us that we may use their facts as a basis of our recommendations and their report will be available to us about November 15th。

## ANTI－DIVERSION AMENDMENT＊

User taxes are typically regressive。 Thus，when they are devoted to non－ highway purposes or to highway purposes which the users cannot properly be asked to bear，they violate principles which most of us would favor．In other words， we would have a high and regressive sales tax levied against one commodity under
＊See Table No。 38

STATES HAVING ANTI-DIVERSION COLSTITUTIONAL AMENDMENTS
TABLE NO. 38

| CALIFORNIA* | MASSACIUSETTS | CHIO |
| :--- | :--- | :--- |
| CCLORADO | MICHIGAN | CREGON |
| IDAICC | MINNESOTA | IEIUISYLVINIA |
| IOWA | MISSOURI | SOUTH DAKOTA |
| KANSAS | NEVADA | TEXAS* |
| KENTUCKY | NEW HAITSHIRE | WASHIMGION* |
| MAINE | NORTH DAKOTA | WEST VIRGINIA |

* States in which substantial sums of highway use revenues are expended for non-highway purposes under the amendments.
the guise of a benefit tax。 i special group of taxpayers and a particular commodity would be subjected to excessive and discriminatory tax treatment.

Montana has been fortunate in that very little of its highway funds have ever been diverted and it is our understanding that there is no possibility of diversion as long as we have a bonded indebtedness, however, if our recommendation is followed and we refrain from selling bonds in the future we will eventually retire our present bonded indebtedness and then there may be an attempt to divert some of the highway revenue, therefore, we believe that necessary legislation should be passed to avoid this possibility。

## LIMITED FUNDS

In view of our limited funds we would recomend that road construction involving bridges, over-passes or other types of construction which require a heavy investment for a very small mileage be deferred wherever possible.

## HIGHWAY PATROL FUNDS

We recommend that various Highway Patrol fees, fines, etc. be paid to a Highway Patrol fund under the supervision of the Highway Commission and the patrol be placed on a self-supporting basis rather than be dependant on an appropriation from the Legislature. Any surplus income which the Patrol may receive should then be returned to the Highway fund. We believe that this would make a more effective, efficient and financially sound Highway Patrol, especially in view of the fact the Highway Commission acts as the Patrol Board.

We also believe that the patrol should.be expanded in the interest of safety and for the protection of our roads. The Patrol can help tremendously to save our roads by properly enforcing the various regulations imposed by the Legislature and the Highway Commission. Furthermore, if we increase the safety on our highways it will encourage people to travel which will add to their enjoyment from the roads and increase the road revonue.

## TAXABLE FUEL IN TRANSIENT UNITS

We recommend that any vehicle which enters the State and which carries an excess of twenty gallons of fuel for consumption in that vehicle should have the excess above twenty gallons taxed for the benefit of our Highway fund. Many large units now enter our State and travel several hundred miles and never purchase any fuel in Montana thus they avoid paying any contribution to our Highway fund. We know of two States, Nebraska and Kansas, in which such a law is effective.

## TOLL ROADS

We appointed a sub-committee to make a study of the advisability of recommending toll roads or bridges in liontana. The committee studied the results obtained fror such projects as the Pennsylvanis Turnpike and decided that our great distances and sparse population would make any toll rate unadvisable.

## LICENSE EXPIRATION DATES

To facilitate the work of the Registrar of Motor Vehicles and to avoid
registering all of the vehicles on January lst，which tends to throw an extrenely heavy load on the Registrar＇s office at one time of the year，we recormend that certain licenses expire at the end of each month during the year．The State of Oregon and several others use this system and find it very satisfactory．

## HIGHWAY SPECIFICATIONS

Since a penny saved is a penny earned we recommend that specifications for road projects be written with extreme care to mininize the element of risk with which the contractor will be faced．This will result in lower fees as the bid－ ders will have a more definite idea as to what will be expected of them．IVoning advised us that they were able to get much more satisfactory bids when they im－ proved the writing of their specifications．They stated in part as follows： ＂We are endeavoring to avoid standardization in our design in an effort to effect maximum economies in each individual project without sacrificing soundness or safety features．

That such savings can be made through proper preliminary studies has been demonstrated on numerous projects constructed under recent programs．

Projects are set up in such a manner that uncertainties of requirenents be eliminated，and that iterns of cost to the contractor which are not essential to the finished job be minimized。

Very considerable additional saving have resulted by completing thorough field studies of the projects prior to design．Here the field engineer must be alert in all phases of his location survey。＂＊

## EQUIPMANT SPECIFICATIONS

Writing specifications for equipment is some what similar to writing speci－ fications for projects mentioned in the previous section．We believe that it is important that specifications be written to insure a maximum of bidding and compe－ tition rather than having the Department write specifications which restricts the number of suppliers，and which results in higher prices for the equipment．

## SAFETY

Your committee many times discussed and considered the highway safety problem．Factors involved in the cause and solution of this problem are numerous．

Prevention of the tremendous loss of economic wealth due to accidents would more than compensate for the cost of our highway system in benefits to road users．In addition to the waste of wealth is the loss of human life，and suffer－ ing and hardship resulting from highway accidents．

The committee realizes there are no adequate controls over the complexities of human behavior，weather conditions，and mechanical stability of automotive vehicles to insure freedom from accidents on our highways．

In many instances，sight distances，curves，grades，and width of our highrays do nct conform to adequate safety standards．However，many miles of the se high－ ways were constructed for a small volume of lighter vehicles at lower speeds．
＊By Talcott Ioore，Construction Engineer，Wyoming Highway Department。

To increase safety，all physical features are considered modern highway design－ ing，and many improvements have already been made in our highway system by the elimination of curves and removal of sight obstructions．

Traffic safety is a wide fiold embracing technical engineering knowledge， public education，and law enforcement．Your committee feels that traffic safety is a vital part of our highway program which must necessarily be entrusted to specialists in the fields involved．

## LEG ISLATIVE FACT FINDING COMVITTEE

Your Committee has studied the highway reports of several states，and has also talked with interim Chairmen from other states，as well as highway officials． We have been in contact by telephone，letter，and personal visits with Utah， Idaho，Washington，Oregon，and California．We are convinced that a thorough study of our highway problems should be made，and we would recommend that a Fact－ Finding Committee be appointed during the next Logislative Session，and we rould suggest that it be composed of twelve members，six from the House and six from the Senate．To get statewide representation of Representatives and Senators， we would suggest that the Senators be selected from the even numbered financial districts，and the House Members from the odd numbered financial districts－or vice versa．This group should elect one of their number as C hairman，and to do proper work，there should be an appropriation so the Committee will be in a po－ sition to employ at least one expert to direct the efforts of the staff。

We are recommending that the Interin Committee be composed of Legislative Members since they have the proper prestige with the other Members during a session，and they are responsible to the entire public．They are in a position to prepare the way for proper representative action at the opportune time．There must be an appropriation sufficient po pay for the necessary experienced engi－ neers and economists who have had experience in highway methods．Research is like any other service or commodity，and if we expect to get a first－class study summarized in a report，it will be necessary for the Legislature to pro－ vide funds．

The last Session of the Idaho Legislature appropriated $\$ 50,000$ for such a study．Washington is now spending $\$ 50,000$ on a study to decide what the proper tax should be on fuel oils，other than gasoline，and what tax should be placed on trailers．Oregon has had an Interim Committee of one kind or another since 1935，and one report cost $\$ 250,000$ ．The Committee feels that the best way for Montana to expand and grow is to have a good，sound highway progrom．

## DIVISION OF HIGHWAY RESFONSIBILITY

In working on th is report，we have tried to arrive at a fair Tax Program which would give us a maximum of highways with fair and reasonable contributions on the part of various segments of our economy．We have considered the benefits received by various groups and individuals as well as the ability to pay．How－ ever，a satisfactory division of highway responsibility is by no means simple。 Doctor Burton N．Behling well characterized the difficulty as follows：

When all is said and done，there are some problems which cannot be solved by statistical methodology．With respect to the problem presented here， which involves joint costs and responsibilities，scientific allocations are im－ possible；a straining for a definitiveness which is non－existent can only give results which are decoptive in their apparent exactness。＂＊
＊Public Aids to Domestic Transportation，S。Doc。159，79th Congress，lst Session （1914），P。252。


A Legislator concerned with Tax Equity must meet the issue, and therefore looks to the Tax Expert for advice to arrive at a fair Tax Allocation. After the experts have compiled basic motor vehicle data, and studied our present facilities and conditions peculiar to Montana, they may then consider various methods of allocating the cost such as:
(1) Increment Theory
(2) Gross Ton-Mile-Theory
(3) Operating Cost Theory
(4) Differential Benefit Method
(5) Space-Time Theory

After reading this report, you will no doubt be aware that we have not discovered any "magic" formula to solve the difficult phases of our financial problem. However, we have contacted a large number of organizations representing a majority of our citizens, and we have tried to suggest a prograrn which would be reasonably fair, and not too expensive for anyone--either individual or group.

## ENACTHENT OF THE PROGRAN

Your Committee has voted to offer its further services to you and the Legislature to formulate and execute a satisfactory Highvay Program, if you or the Legislature feels that the Cormittee or any of its members can be of further service.

The Conmittee also wishes to express its commendation to the Officials and Employees of the. Highway Department for the courteous and valuable assistance given your Committee.

We also wish to thank Dr. L. I. Iversen of the School of Business Idministration, Montana State University, for $h$ is help and advice.

## APPENDIX 1.

## TRAFFIC REQUIRED ON FRIMARY ROAD TO ATTAIN FINANCIAL SOLVENCY

The cost of constructing and maintaining an average mile of primary road is difficult to determine because of variable conditions encountered throughout the state. The cost not only varies with the location, but it also varies according to the amount of previous construction that can be salvaged.

The cost of new construction should approximate $\$ 40,000$ or $\$ 50,000$ per mile. excluding rock excavation or unusual amounts of bridge work. liccepting $\$ 40,000$ per mile as a munimum figure, the following table shows the amount of traffic that would be required to pay maintenance costs and amortized construction costs over a twenty year period.

Initial construction cost
Less: Federal Aid
Net State Cost
Annual Cost (20 Years at $2 \%$ Interest Annual Maintonance Cost

Total Annual Cost

Daily Cost
Traffic required at . 005 per vehicle mile
$\$ 40,000.00$
22,800,00
\$17,200.00
\$1,051.00
600.00*
\$1,651.00
\$ 4.52
904 Daily

The average motorist pays $\$ .005$ in motor fuel and use tax at present rates for each mile that he drives his vehicle. On this basis, it would require 904 vehicles per day of traffic for the average mile of primary road to pay its own costs from its own traffic. The state also receives the tax from motor fuel consumed on county roads and city streets and if this "subsidy" is apportioned to the mileage on State Highway Systems the revenue would be increased to $\$ .008$ per vehicle mile. It would then require 565 vehicles per day to retire all costs.

* This figure is slightly higher than the 10 year average but it is much less than the cost in recent years. Schedule 9, shoms a maintenance cost of approximately $\$ 1000.00$ per mile for 194.9。


## MOTCR FUEL TAX

| $\begin{gathered} \text { Six Month } \\ \text { Feriod } \\ \hline \end{gathered}$ | Gallons of FuelTaxedNet Amount <br> Collected by <br> Collecting igency | Amount of Cash Received in the Highway Fund | Fercent of Increase |
| :---: | :---: | :---: | :---: |
| 1950 | $76,812,905$ \% $4,641,265.00$ | $\$ 4,580,957.15$ |  |
|  | Less Sinking Fund Payments Less Sundry appropriations | $\begin{array}{r} 711,000.00 \\ 24,647.22 \\ \hline \end{array}$ |  |
|  | Amount available to the HighFund for construction \& ntenance in 1950. | \$3, 845, 309.92 |  |
| 1949 | 73,884,924 \#3,694,246.00 | \$3,526,770.07 |  |
|  | Less Sinking Fund Payments Less Sundry Appropriations | $\begin{array}{r} 546,000.00 \\ 22,720.53 \\ \hline \end{array}$ |  |
|  | amount available to the Highway for construction \& maintenace 1949。 | \$2,958,049.54 |  |
| INCREASE | 2,927,981 \$ 947,019.00 | \$ $887,260.39$ | $29.99-1950$ |

## INCREASE DUE TU NEW LEGISLATION

Allowance for increase in gasoline collections due to new
legislation and adjustments by the Board of Equalization。 $\$ 800,619.95 \quad 37.06$

Motor vehicle use tax collections from $1 / 1 / 50$ to $6 / 30 / 50$ due to new legislation

Total increase due to new legislation

$$
\begin{array}{ll}
\$ 1,359,660.00 & 62.94 \\
\$ 2,160,279.95 & 100.00
\end{array}
$$

## APPENDIX NO. 3

The Director of highways or local authority is authorized to issue or withhold such permit at his or its discretion; or, if such pernit is issued, to limit the number of trips, or to establish suasonal or other time limitations within which the vehicle described may be operated on the public highways indicated, or otherwise limit or prescribe conditions of operation of such vehicle or vehicles when necessary to assure against undue damage to the road foundation surfaces or structures or safety of traffic and may require such undertaking or other security as may be deemed necessary to compensate for injury to any roadway or roàd structure。

The following fees, in addition to the regular license and tonnage fees, shall be paid for all movements made upon state primary or secondary highways. All funds collected shall be forwarded to the State Treasurer and shall be deposited in the motor vehicle fund:

All overlegal loads, except overweight, single trip................................... 4.00
Continuous operation of overlegal loads having either over width or over-height features only for a period not to exceed thirty (30) days..................................................................................... 25.00
Continuous operation of overlegal loads having over-length only for a period not to exceed thirty (30) days. 10.00

Continuous operation of anerlegal vehicle as a pilot model and/or semi-trailer as a pilot model for a period of one (1) year............... 50.00
Continuous operation of combination of vehicles composed of more than two (2) vehicles single trip.4.00

Continuous operation of a combination of vehicles composed of more than two (2) vehicles -- thirty (30) days. 10.00

Continaous operation of a combination of vehicles composed of more than two (2) vehicles, including issuance up to and including four (4) permits to the same operator for a period of six (6) months............................................................................................... 40
Continuous operation of a combination of vehicles composed of more than two (2) vehicles, including issuance up to and including six (b) permits to the same operator for a period of one (l) year.
60.00

Overweight Fee Schedule
Weight over that allowed

- by statute

| 50 mi . or |
| :---: |
| less |

$\$ 5.00$
10.00
15.00
50.00

Miles traveled
——. by statute ........-

7,000 lbs. or less
7,001 to 13,999 lbs. overlegal
14,000 to 19,999 lbs. overlegal
over 50 miles but
less than 200 miles
200 miles or more
$\$ 15.00$
$\$ 10.00$
30.00
45.00

20,000 rounds or more overlegal
50.00
100.00
150.00

## Sheet 2 <br> APPEND IX NO. 3

An additional two thousand $(2,000)$ pounds gross load over and above the maximum gross load, when fully licensed, as permitted in section 50 , subsection (a) for three (3) axle trucks, two (2) axle trailers, three (3) axle trailers and three (3) axle truck-tractors, for operation on highways or sections of highways which have been designed and constructed for weights in excess of legal limitations, as further provided by law and further determined by the Director of Highways to be capable of withstanding the increased loading may be allowed, under sfecial permit, upon payment of fifty dollars ( $\$ 50$ ) annually for each vehicle operated. The permit shall be issued for a period not to exceed one (1) year which shall have a commencing and expiration date the same as the motor vehicle license date provided by law.

For the purpose of this fee schedule, mileage shall be determined fron the Flanning Survey Records of the Department of Highways, and the gross weight of the vehicle or vehicles, including load, shall be as declared by the applicant. Overweight on which fees shall be paid will be gross loadings in excess by law, whichever is the greater. Loads which are overweight and oversize shall be charged the fee for the overweight permit without additional fees being assessed for the oversized features.

Fees established in this section shall be paid to the political body issuing the permit if the entire movenent is to be confined to roads, streets or highways for which that political body is responsible. When a roverent involves a combination of state highways, county roads and/or city streets the fee shall be paid to the Director of Highways but such fee shall not be collected nor the state permit issued until valid permits are presented showing that the political bodies involved approve of the move in question. A permit will not be required from city or tow authorities for a move involving a combination of city or town streets and state highways when the move through a city or torm is being confined to the route of the state highway. When a move involves a combination of county roads and city streets the fee shall be paid to the county authorities, but the fee shall not be collected nor the county permit issued until valid permits are presented showing that city or town authorities approve of the move in question.

Any person who misrepresents the size or weight of any load in obtaining a permit or does not follow the requirements and conditions of the permit shall be guilty of a misdemeanor and upon conviction thereof shall be fined not less than fifty dollars ( $\$ 50$ ) or more than one hundred dollars ( $\$ 100$ )。

Any person who operates any overlegal vehicle without first obtaining a permit shall be quilty of a misdemeanor and upon conviction thereof shall be fined not less than one hundred dollars ( $\$ 100$ )。

Every permit issued hereunder shall be carried in the vehicle or combination of vehicles to which it refers and shall be open to inspection by ary peace officer or authorized agent of any authority granting such permit.



[^0]:    *Note that the language referring to the Commissioner's authority to appoint an engineer and other employees is permissive, not directive. This deficiency in the law opens the door for outside political maneuvering in the filling of the Chief Engineer's position, a vitally important job that calls for tike highest degree of tested professional engineering and administrative expesience.

[^1]:    ＊（A．B．Lewis，＂An Economic Study of Land Utilization in Tompkins Court，New York，＂Cornell University Bulletin No。590，April，1934，P。45）． ＊＊（W．M．Curtiss，＂Use and Value of Highways in Rural New York，＂Comell Uni－ versity Bulletin No．656，August，1936，pp．23－25．）

[^2]:    ＊California Joint Fact－Find ing Comnittee on Highways

[^3]:    *A report to the Governors Conference on Highway Safety and Iotor Truck Regulation (1950).

[^4]:    ＊In Washington cost $\$ 6,100,000$ or $28 \%$ of the ir income
    ＊＊See Table IVO。17

[^5]:    Note: Amounts shown include direct costs only - do not include overhead

[^6]:    TCTAL 2，222，515，28 100，00 2，428，286，30 100，00 2，810，161，30 100，0 3，268，069，86100，00

[^7]:    0G6T of 7\＆6T
    COMPARISON UF MOTOR FUEL TAX EARNINGS
    スantns oninnvid xymiolh
    LNSINLKYGTa KYMHOIH YNYLNON

[^8]:    * Partial report of the Senate Interim Committee on Highways, Streets and Bridges, (California.)

[^9]:    * Section 2398 R.C.M. 1935, Oil Froducers License Tax, $2 \%$ of value.

